

American Aviation

The Independent Voice of American Aeronautics

NOVEMBER 1, 1943

Blitz From The Surface

THE air transport industry is currently on the receiving end of a blitzkrieg from various surface carriers.

Fortnightly Review

In Congress a minority group of the House Interstate and Foreign Commerce Committee suddenly switched from

its earlier support of the Lea bill which would create a Civil Aeronautics Commission, and threw its support behind a report and a bill quite obviously inspired by surface carriers. In the Civil Aeronautics Board the hearing into the feeder airline problem heard a lengthy and well-prepared frontal assault on the air transport field by the Greyhound Bus interests.

The maneuvers in Congress are designed simply to forestall action on or to defeat the Lea bill which has been under consideration in various forms since January. Its real purpose is to open up the air transport field to all comers although this purpose is supplemented and disguised by a wide variety of charges including the states' rights argument and the usual charge against monopoly. The hasty move is so obvious, however, and the interests of three large railroads and one steamship company in this report are so well known to members of Congress, that right-thinking legislators are not apt to be swayed by this sudden pressure.

The impact of the Greyhound presentation before the CAB cannot be overlooked or under-estimated, however. The bus interests have applied for some 40,000 route miles. It is asking a national system to be operated chiefly with helicopters. What causes one to look with close scrutiny on the bus ambitions, however, is the fact that the feeder hearing was merely an exploratory investigation and not a hearing for

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American Aviation Photo

'Air Bus' Described

Being watched closely by the air transport industry is Greyhound Corp., which last fortnight presented an impressive case at CAB's feeder investigation. Picture shows Igor Sikorsky, surprise Greyhound witness, explaining company's proposed 14-place helicopter. (See editorial on this page and story on page 21).

Late Bulletins

Trippe States Position

Juan T. Trippe, president of Pan American Airways, indicated in New York Oct. 26 that he favored one strong U. S. international airline capable of competing on even terms with the "great foreign flag air transport monopolies." He mentioned the possibility of a "community" company owned and controlled by all American transportation interests able to contribute.

Lea Bill Postponed

The Lea Bill is not expected to be brought up in the House until the week of Nov. 2 or the following week.

Record Production:

Authentic figures last week disclosed that October aircraft production had spurted so far ahead of September output a new monthly record was confidently anticipated, and there was every indication that for the first time it might go over the 8,000 mark for the month. This will be a remarkable showing over the official figure of 7,598 planes, including special purpose craft, produced in September. However, War Production Board said that heavy bombers not only met schedule in September but ran 6% ahead of August. As a result, output as a whole was up 3% on an airframe weight basis. WPB Vice Chairman Charles E. Wilson last week added to the production picture with a statement that for the 21 months ended Sept. 30 a total of 110,000 planes had been produced, and that the output will soon be one every five minutes.

Trend of The News

Manpower at Work:

Several factors contribute to the October record, chief of which is a noticeable improvement in the situation of the Southern California aircraft plants where officials reported more workers being hired and fewer quitting. Also notable was a pronounced attitude of cooperativeness among the government agencies concerned, and between them and the industry. The Southern California Production Urgency Committee has proved to be a strong and effective agency which is getting results. Surprisingly, for instance, when it designated the Lockheed and North American plants as top priority companies—getting necessary workers ahead of others—there were no complaints from the factories lower down on the list.

Housing Improvements:

Also significant is a development which the industry describes as a "changed attitude" on the part of Government housing authorities. Last fortnight 14,000 new housing units were assured for the Los Angeles and San Diego areas. The Federal Housing Administration granted, for the first time, a reservation of 8,000 of these new units strictly for the use of aircraft workers. This was done at the request of the Aircraft War Production Council and the National AWPC. Also, a

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Let your heart decide

A merchant seaman has been dragged back to life from an ocean of flaming oil. He has lost all of the little possessions that sailed with him. He is given warmth and comforts and strength to fulfill his desire to "ship" again by your dollars. Would you rather have bought a new radio?

Let your heart decide



Let your heart decide

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Remember this soldier? You saw him on the USO posters last year. His smile comes straight from a USO clubhouse. One of the finest things civilians have done in this war is in building and supporting the USO. Boys come into the army from farms and cities—a little lonely—a little homesick. The USO provides friendship, entertainment and hominess. Some of your dollars are spent through the USO. Would you rather have bought yourself a few theatre tickets?

Let your heart decide



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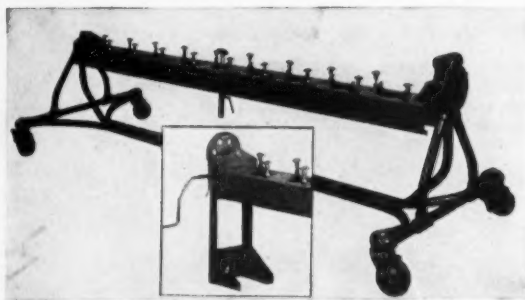
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American Aviation

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November 1, 1943

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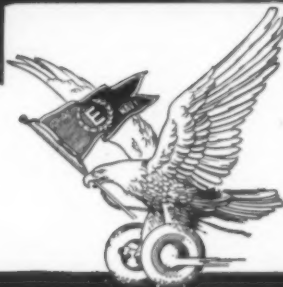
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(Continued from page 1)

large privately-financed housing unit has just been opened up for aircraft executive personnel—the first recognition given to the problem of the "white collar" group.

More Mergers: Western Air Lines' acquisition of 83% of Inland Air Lines' stock—subject to Civil Aeronautics Board approval—probably won't be the last domestic airline merger deal. At least three other deals are current. Merger talk will be prominent in industry circles from now on.

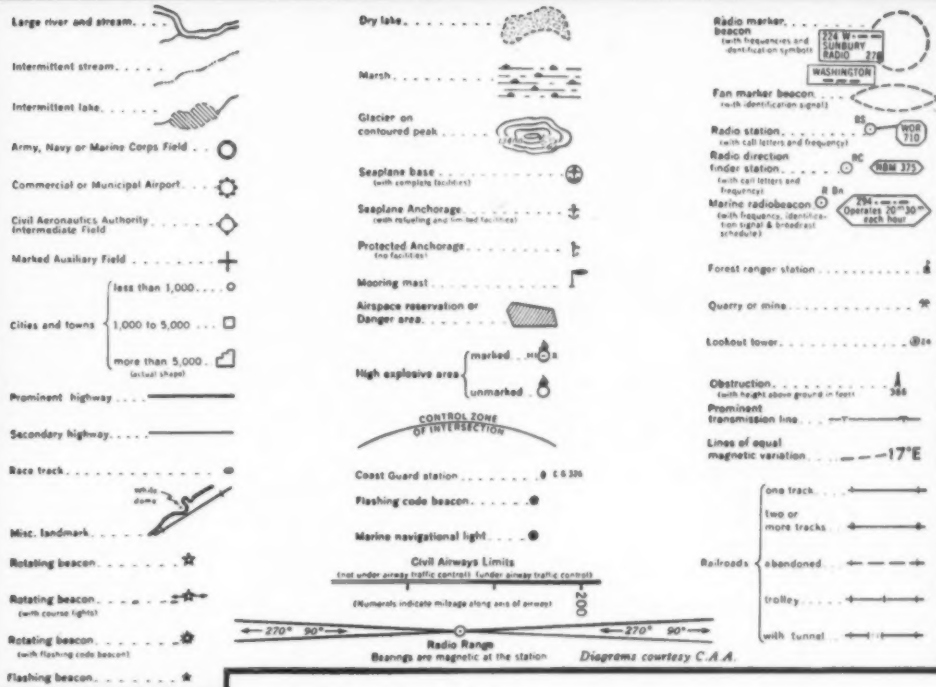
CAB Challenged: The CAB's authority under existing law to act on foreign route applications is challenged by Sen. Pat McCarran (D., Nev.), energetic aviation leader on Capitol Hill. CAB Chairman L. Welch Pogue has maintained that the Board is obliged to act on international route applications as soon as the war program permits, even if this is before the war ends. McCarran insists that it is up to Congress to do one of two things, either lay down the policy for postwar international aviation itself or delegate that authority to the CAB. He believes that the policy should be "decided by Congress and not by any bureau or agency." McCarran is mapping out plans to push his contention.

Caribbean Renewals: As this issue went to press, the five temporary certificates which the Civil Aeronautics Board awarded on May 1 for service in the Caribbean were up for renewal. These certificates were awarded for six months, but the Board may, "without notice and hearing, extend the effective period from time to time for periods not exceeding three months each, but in no event shall the aggregate of such extension extend beyond six months after the war." Thus a formal application for renewal was not necessary. The joker in the deal is that three of the five companies involved had never opened service and had not even asked the Civil Aeronautics Administration for operating certificates. KLM and Expreso Aereo Inter-Americano S.A. were operating, but British West Indian Airways and TACA (both under direction of Lowell Yerex) and Compania Nacional Cubana de Aviacion S.A., Pan American Airways subsidiary, had never operated under their foreign air carrier permits. Why the latter three had not opened service is not definitely known (CAB had asked companies to apply which had available equipment and personnel to enable them "to inaugurate such service immediately"), but CAA officials said informally that the companies may have had more trouble than they anticipated in getting suitable equipment or spare parts. Some contract service to Miami was being operated by companies among these three, but this was not common carrier service under the foreign air carrier permits.

Red Tape Cutters: The War Dept. has had on the West Coast for the past three weeks two top flight trouble shooters with full authority to ask the Secretary of War to make procedural changes to cut red tape wherever it is found to be interfering with any phase of the aircraft program. The Navy Dept. has a similar representative on the job. Good results are reported.


Draft Deferment: Inside information in Washington last week was that Selective Service or the War Manpower Commission would extend a blanket draft deferment of aircraft workers for six months from the expiration of the present deferment period on Oct. 31. Plans also will be announced soon for a program whereby wounded AAF men can be offered suitable positions by the aircraft industry—giving the industry in effect a priority on this source of manpower.

Labor Utilization: Definite progress is being made in getting better utilization of the labor now available in aircraft plants. Two major developments are in the cards: (1) All plants are considering the installation of two 10-hour shifts, eliminating the difficult swing shift for which it is hard to get workers, and on which efficiency is at its lowest point. While such a move may not actually be ordered, government officials have made it clear that they favor its universal adoption by the industry; (2) All companies are carefully mulling over possible incentive pay plans and are discussing it with labor. As a matter of fact, labor has relaxed its opposition and has swung over to left-handed approval of incentives in some cases.



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Editorial

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a route certificate. Yet Greyhound virtually "tried its case" before the examiner.

Was Greyhound aiming its case at CAB, or was it really aiming at Congress? Obviously a great amount of money and time was expended in preparation of the case. Obviously Greyhound is not merely toying with a casual idea. Airline attorneys and observers were amazed at the thoroughness of the presentation—and yet it was not a route certificate hearing at all.

Helicopters? Greyhound had the answers. It is talking and writing helicopters all over the country. And yet is there such a thing as a helicopter for commercial transport? Mr. Sikorsky says there can be one in two and a half years, but Mr. Sikorsky is one of aviation's truly delightful optimists—an engineering genius and a great man, but not the world's best estimator of time, space and costs. Certainly there will be a transport helicopter, but why delude the public into thinking there will be such transports *tried and proven and ready for commercial operation* in anything short of five years—and maybe ten.

The Greyhound case is public dynamite. Here is a bus company applying for more route miles than the industry operates today, selling the public on the idea of using its garages and stations instead of airports, and proposing to use an aerial vehicle which it has never seen except on paper and about which it knows virtually nothing at the present time. It would appear that Greyhound is somewhat premature, if indeed a national bus system can justify its monopolizing of feeder short-haul passenger travel at all.

Perhaps it is time some of the airlines filed for a few railroad, bus, truck, and steamship routes.

Dallas Lets A Friend Down

BACK in the days when every progressive city was endeavoring to get one or more war plants located in its industrial backyard, Dallas, Texas, made a very strong bid for an aircraft plant. At that time the aircraft companies were able to make their own selections, within reservations. North American Aviation, Inc., impressed by the great enthusiasm and civic interest of Dallas, decided to accept the city's offer of cooperation.

Today the Truman Committee of the Senate has placed its investigatory spotlight on North American. Why? No, it isn't fraud or deception. It is "labor hoarding." The valuable time of harrassed executives is being taken up by hearings, both private and public. Dallas newspapers are writing reams of copy, not much of it intelligent. The finger of accusation is pointed toward one of the very best aircraft producers in the United States. The drums of the inquisition are beating.

What is back of it all? There are charges that North American is wasting labor, that it has employed more people than it needs. Back of this charge is the fear of the drafting of fathers with its inevitable reverberations that "others should go first." There is also in the background a labor "shortage" in other business houses in Dallas. But also in the background is the very solid fact that the City of Dallas has let its aircraft enterprise down flat, the fact that the

business and civic leaders of Dallas have chosen to put a great aircraft plant in an unfavorable national spotlight rather than to have the courage to face its own community problem squarely and fairly. There are those in Dallas who know what we're talking about. Other cities have had similar problems. They have solved them. They haven't betrayed an industry they begged to come into their communities.

Labor hoarding? A surplus of workers? How easy it is for the layman to draw stupid and easy conclusions. There are many times when aircraft plants have a "surplus" of workers, but the words "surplus" and "hoarding" are misnomers. Does Dallas want airplanes for the war? If it does, then it must realize the complex problems of aircraft manufacturing. Workers that have been trained at great expense can't be fired when they may be needed tomorrow, or next Monday, as soon as the new Army change order has come in from Wright Field. Dallas is merely "playing war" very selfishly if it ignores fundamentals of an aircraft manufacturing plant which it wanted so badly only a few years ago.

It takes real productive genius to run a successful aircraft plant. It is the most thankless, heart-breaking and back-breaking job in America today—bar none. If Dallas' civic genius were on a par with its customary civic pride, it would not have permitted a great company to be dragged through a national investigating wringer. *For the problem is a local one.* Other cities have solved it. But those cities have had intelligence, foresight, brains—and guts. What a fine patriotic gesture it is to handicap aircraft production in the midst of war in order to do a little buck passing to a company with one of the finest, straightest, and highest records of war production in the nation!

A Contest And A Victim

THERE IS NO industry in the United States that is in such dire need of reconversion assurances as is the aircraft manufacturing industry. Automobile, radio, refrigerator and other manufacturers now working on war contracts, will resume peacetime manufacturing of their products almost immediately upon the cancellation of their contracts. But aircraft manufacturers cannot look forward to any such quick conversion. For the most part there is no sizable market to return to without a considerable period of development.

It is imperative that cancellation claims be paid immediately, at least up to eighty or ninety per cent. Not only must individual companies set up machinery at once to present their claims quickly (which very few have done), but the government, too, must have its machinery set up. As an indication of how very serious the problem is in the aircraft industry (in contrast to most other industries), one large company could operate for one week only upon cancellation of its military contracts if it had to keep its payroll and other operating costs going.

The War Department has done a pretty good job so far on contract terminations. So far it has been fighting

(Turn to page 12)

THE TOUCH OF TOMORROW IN THE PLANES OF TODAY



More Air Power for another United Nation

The Brazilian Air Force will soon get six-cylinder, inverted, in-line, air-cooled Ranger engines made in Brazil, under a contract recently signed by that good neighbor's Government and the Fairchild Engine and Airplane Corporation.

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Books

AIRCRAFT MATHEMATICS, by A. S. Walling and J. S. Hill. 186 pp. The Macmillan Company, New York. \$1.75.

This is a revised edition originally brought out in England, but made to conform to American usage and terminology. It has been especially written to provide a quick review of the elementary mathematics which pilots, navigators, bombardiers and mechanics need to know, and has been tested in actual use by over 80,000 men with the RAF, the RCAF, and U. S. AAF and Navy airmen. It covers arithmetic, algebra, geometry, graphs, logarithms, and trigonometry and has 590 problems with answers given at the end for self checking.

THE SKY'S THE LIMIT, by Charles Gilbert Hall and Rudolph A. Merkle. 194 pp. Funk and Wagnalls Company, New York. \$2.00.

This is another book on jobs in commercial aviation and how to get them, with particular emphasis upon commercial airlines. It is much more elementary than many such books and yet may serve a better purpose for those who know little or nothing about the industry. It describes briefly all types of jobs and the educational and physical requirements for each.

83 DAYS, by Mark Murphy. 124 pp. E. P. Dutton & Co., New York. \$1.75.

This is the story of the survival of Basil Dominic Izzi, who with two other seamen, spent an 83-day ordeal on a life raft in the Atlantic Ocean after their ship was torpedoed Nov. 2, 1942, by a German submarine. The author tells a moving story of the experience which was climaxed when the men were rescued by a Navy PC boat.

CHEMISTRY AND THE AEROPLANE, by Vernon J. Clancey. 176 pp. The Ronald Press Co., New York. \$2.25.

This is one of a group of individual treatments in which recognized authorities cover each of the sciences underlying aeronautics. The author is British and the book is one of Nelson's Aeronautical Manuals of which H. Levy is general editor. It is designed to serve the purposes of those who want to understand for other applications the chemistry of liquid fuels, combustion, metallurgy of alloys, plastics, and the behavior of gases.

AIRCRAFT POWER PLANTS, by Arthur P. Fraas. 472 pp. McGraw-Hill Book Co., New York. \$4.50.

The author has written this book to meet the needs of aircraft-power-plant engineers. An instructor in aircraft engines at the Daniel Guggenheim School of Aeronautics, College of Engineering, New York University, the author has followed a method of presentation based on experience gained in teaching courses on aircraft power plants to classes of U. S. Army and Navy officers and engineers engaged in the industry. He presents fundamental terms and concepts and he writes for those who are already familiar with college physics, thermodynamics and fluid mechanics.

AIRCRAFT HYDRAULICS, by Harold W. Adams. 150 pp. McGraw-Hill Book Co., New York. \$1.75.

The author is chief of the mechanical and hydraulic section of Douglas Aircraft Co., and chairman of the S.A.E. subcommittee for aircraft hydraulic equipment. The book explains the details of hydraulic systems in current use and arbitrary rules for their design, in addition to basic principles and general rules for their design. He has emphasized principles of design in order to aid engineers who will be developing or using new systems in the future.

AVIATION MECHANICS SIMPLIFIED, by Henry Lionel Williams and edited by Michael H. Froelich. 576 pp. A. Neil Sawyer Co., New York. \$3.95.

In preparation for two years, this book has been designed as a complete study course in all branches of aviation mechanics. It is illustrated with more than 700 detailed technical

Editorial

(Continued from page 9)

the industry's battle, and it is to be commended for handling a complicated problem reasonably well at a time when the war is far from being won. But there is a danger signal raising itself.

This danger signal is a potentially long and dragged out battle between the War Department and the Comptroller General, Mr. Lindsay Warren. The aircraft industry should not be made a victim of a contest between two government agencies.

The Comptroller General says he won't approve contract terminations unless he can audit the books of the contracts. The War Department replies that this procedure will take far too long, and besides the Department has the authority to approve termination of contracts. The Comptroller General then replies that the War Department is prone to "approve anything"—and listed such items as false teeth. The War Department, through Under-Secretary of War Robert Patterson, replied that the Comptroller General has ultimately approved over 99% of all previous Army-approved contracts, so there can't be anything of major consequence remiss.

We think Mr. Patterson is right. We think the Comptroller General indulged in rather shoddy burlesque-stage tactics to bring up a lot of picaresque items like false teeth when the fate of industries is at stake. The feuding should stop, for the final arbiter in intra-government feuds is Congress, and when Congress takes hold the actual victim of the fight is the industry or industries concerned. We hope Mr. Warren will not tarnish his record by making an innocent victim (the industry) be the actual loser in a dispute among two government agencies.

Horse Sense On Helicopters

An Army officer who should know has estimated that the total number of hours of flying on all helicopters built in the U. S. to date is less than 1,000 hours.

Estimates based on newsreel and magazine publicity, applicants for new airline routes using helicopters, and "aviation experts," run into several millions of hours.

If a helicopter engineer is being interviewed by the press, the helicopter is "just around the corner"—almost any day, now. Hold your seats gentlemen.

If he is talking privately he will tell you that a practical volume-produced helicopter is five years away after the war.

But if he's your friend, he'll tell you it will be ten years before there is a mass-produced helicopter for the public.

Suggestion: Let's all have two minutes of silence to think about the manufacturer who has to sell airplanes in the meantime. And they'll be good, easily-operated, safe, utility airplanes, too. Why not give the helicopter a little rest?

Solid Achievement

THE AIRCRAFT manufacturing establishment of the United States has reached a level of 8,000 aircraft produced per month. This is one of the most extraordinary records of war production ever reached in the world. It is not only worthy of an historical note, but it is a fulsome tribute to the industry which has established this great record.

Materials Solved--At Last

TWO YEARS ago the aircraft manufacturers were crying and begging for material. Assembly lines were often within minutes of coming to a halt. A year ago the materials shortage began easing. Today it is virtually cleared up. In fact the materials problem is one item that can be written off as "solved and closed." And what a relief!

WAYNE W. PARRISH.

drawings, photographs and diagrams, and furnishes specific instruction in almost every phase of its subject. The author has written previous books and the editor is now with Ziff-Davis Publishing Co. The book presupposes no previous technical training or background upon the part of the reader, a feature which enhances its value in aviation plants and schools.

THE AIRCREW'S BOOK OF PRACTICAL MATHEMATICS, by P. H. Robinson. 147 pages. Chemical Publishing Co., Brooklyn, N. Y. \$1.50.

This book should prove useful to any airman. It is intended to give the airman, whether pilot, observer or ground staff, essential knowledge of mathematics and facility in manipulation without the need of a teacher.

SOMETHING REALLY NEW!

Douglas C-47 "Skytrain" on Edo Model 78 Amphibious Float Gear

READY TO SERVE IN

TRANSPORTATION OF COMBAT TROOPS • ORDNANCE • SUPPLIES

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**AMPHIBIOUS
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Ready!... *willing and able*

BECAUSE of war plans made as far back as 1936, it took but a telephone call to the chiefs of the Army and the Navy to place the entire resources of the air transport industry at the disposal of the armed forces, within a few minutes after the attack on Pearl Harbor.

"Ready, willing and able"—at that instant the Airlines of the United States went to war. And they've been at it ever since, carrying out a vast program for the Army and the Navy, speeding personnel and cargo to the farthest theaters of war, and training thousands of men in air transportation.

And all this *in addition* to maintaining regular scheduled service for passengers, mail and express over their domestic and international system of airways.

Because of the magnitude and scope of these war-time operations at home and abroad, the Airlines are developing improved techniques and operating efficiencies which already have speeded up, by 25 years, the progress of air transportation.

After the war, tremendous demands will be made upon the Airlines by a people awake to the potentials of traveling and shipping by air. At that time—as always—the Airlines of the United States will be found "ready, willing and able."

When you travel by Air make reservations early; please cancel early if plans change. When you use Air Express speed delivery by dispatching shipments as soon as they're ready. Air Transport Association, 1515 Massachusetts Avenue, N. W., Washington, D. C.

IF YOU CAN'T DROP BOMBS . . . BUY BONDS!

THE AIRLINES OF THE UNITED STATES

AIR TRANSPORT GETS THERE FIRST... PASSENGERS... MAIL... AIR EXPRESS



Fueling the Bellanca monoplane, Miss Veedol, at the start of the round-the-world flight of Clyde Pangborn and Hugh Herndon, Jr. They took off from Tokyo October 4, 1931, en route to the U. S. A. non-stop.



Perfect end of a perfect flight! Having dropped their landing gear at sea to gain speed, Pangborn and Herndon are pictured about to land at Wenatchee, Wash. They flew 4,558 miles non-stop in 41 hours.

NO JAP EVER "HOPPED" THE PACIFIC

Tojo thought that treachery would take the place of skill, but he was wrong. There's no substitute for aeronautical pioneering ability! The Japanese never have caught up with the performance record of the 1931 American plane which took off from Japan and flew non-stop to the United States twelve long years ago.

In fact, no other airplane has ever duplicated that Pacific flight in the long-distance Bellanca cabin monoplane, Miss Veedol. But today thousands of American flyers are sweep-



Official U. S. Navy Photo



The AT-21-BL gunnery crew trainer, in production at Bellanca Aircraft Corporation for the United States Army Air Forces.

ing the Pacific north and south, east and west. They are flying many types of rugged American-built aircraft. They are matching the inspiring intrepidity of the men who flew that glorious assault on the enemy's homeland in the Army Air Forces B-25s shown in this photo of the U. S. S. Hornet.

First to link Japan and America by air non-stop, Bellanca today contributes to the crushing of Japanese military power. Many of the United States warplanes, roaring to Victory, carry armament equipment and aircraft components precision-built at the Bellanca plant, where the AT-21-BL gunnery crew trainer is in production.

KEEP ON BUYING U. S. WAR BONDS

BELLANCA AIRCRAFT CORPORATION

NEW CASTLE, DELAWARE

Letters

October 8, 1943.

To the Editor:

Am happy to find somebody, namely you, sounding off in favor of SLOW small planes for private ownership after the fracas.

Throughout the years, I've said that I want a small plane, about four place, which will squat in short places and get out of same, and that I'll be satisfied with 75 as cruising speed IF that's necessary to insure the slow landing speed. Every time I make such a crack, I'm hooted down by the speed demons who want speed, speed, and more speed. Their theme song is, "Why fly if you don't have speed?"

I've flown over 225 types of land planes, amphibians, and flying boats from powered glider to Consolidated's and Boeing's four-engined flying boats, during the last twenty years, and, while it may be because I'm growing old, I grow more and more to want a bit of a craft in which I can go to and fro and squat where fancy directs. Of course the helicopter will be an answer, but it seems as if we could have a conventional type which would commence its life possessed of the dreamed-of performance—and have speed added as refinements or something developed.

Returning to the theme song of the speed lads, I pity them for failing to enjoy flying for its own sake. It's a hectic world, mates!

FRANK E. WILLIAMS,
Asst. Chief of Flight,
Consolidated Vultee Aircraft.

October 7, 1943.

To the Editor:

First off, please DON'T cancel my subscription or anything like that as I think AA is the bright spot in Aviation Journalism but I would like to make a few comments on your "Double-Breasted Model" page 32, October 1 issue.

You say that men entitled to wear this uniform (a better description would be, light pajama suit of sack-cloth) train about 20 Army aviation cadets a year. Now I am an average Civilian Instructor in an average West Coast Primary School and in the last 12 months I graduated 30 cadets and put in 82 hours dual on five more and under the new 65 hour 8 week curriculum I expect to graduate 36 in the next twelve months. Now either your statistics are wrong or we are working for Simon Legree out here.

Now in addition we are forced to enlist in the Army as privates or be drafted which is the same thing and that is okeh with me as I am proud to be a private, or would be if I was but immediately after enlistment we are put on inactive reserve so that actually we are neither fish nor fowl. As for the uniform, you can look like an officer in C.P.T.; C.A.P.; W.A.F.S.; Correspondent or what not; but a Primary Instructor who rates a salute from every cadet and student officer in primary regardless of rank, he must wear the only thing in the war that looks like a Zoot Suit. And as for flying ability the Army Primary Instructor is the best in the world bar nobody. Oh well, they say in 24 months you go nuts.

Yours truly

TOM MATHEWS,
Box 128, Monterey, California.

Atlanta, Ga.

To the Editor:

It is not the intention of this letter to plant the seed for universal language or offer a catholicon for the world economic problem. However, a need does exist for universal language insofar as the control of aircraft is concerned. I believe it useless to state, even though psychiatrists may disagree, that the present day personnel engaged in aviation are superior, intellectually speaking, and that the acceptance of this or a similar plan would place a very small burden on those concerned.

At the present time, in order to satisfactorily

control all air traffic in a certain area within the United States, the use of four different languages should be used—English, Spanish, Dutch and Portuguese. The lack of personnel who possess an understanding of the four languages mentioned above have made it necessary to adopt the attitude of "When in Rome, do as the Romans do."

Words and phrases, such as "Roger," "Out," "Boundary," and "Cleared to the Atlanta Boundary," were all, at one time, very foreign to us all, and only through constant use were we able to understand and associate these words and phrases with the control of air traffic. It is believed that the time has arrived when language boundaries will have to be eliminated insofar as the control of air traffic is concerned. It is further my belief that this country is aeronautically advanced and possesses sufficient intelligence to foster a universal language for the control of air traffic.

The Spanish language, due to its wide use in South America and many other parts of the world, and since it is taught in most of the public schools, appears to be the most acceptable at this time. However, any language adopted would necessarily have to receive the approval of the War, Navy, State, Commerce, and many other government departments.

I realize that a tremendous amount of time and effort would be required to effectuate a plan such as outlined above. However, the results would justify the time and effort required.

You have my permission to edit and present this in any way you deem advisable. The above may not be the answer, however, some consideration and thought must be given such a plan, but PRONTO.

C. BROWNING WALTER.

Port Washington, L. I., N. Y.

To the Editor:

I have just read with a great deal of interest your editorial relative to some organization "step in now to draw together all the scattered interests of private aviation." I think you are 100% correct.

I am of your opinion that the American Automobile Association is the organization to do the job.

The motorist of today is the private flyer of tomorrow. Many of the postwar private flyers are today members of the AAA, and will automatically look to the AAA to help them with their problems just as was the case when private motoring started on its road to popularity.

The AAA has the organization now, it is experienced in dealing with Federal and State Agencies and probably through the directors and managers of their many local clubs have direct contact with more officials who will have a hand in postwar aviation development and regulation than any other group in the entire country.

It appears to me to be a natural function of the AAA in the ever expanding field of service to their many members. Its prestige is of the highest and certainly every postwar private flyer could take pride in being associated with it. I am a member of the AAA and feel it renders a service to its members of greater value per dollar than any organization I know of.

Your editorial seems aimed directly at the AAA since they are so perfectly equipped to do the job. I would like to see you use your best efforts to make this most happy solution of the problem come to a reality.

W. S. SHANNON.

Akron, Ohio

To the Editor:

On several occasions the thought has occurred to me that something should be done on the part of a Governmental Department most

affected to recognize the splendid work the Civilian Test Pilots, of America, are doing for the war effort in the production of military aircraft.

With the possible exception of a few such as Vance Breeze, Red Hulse, Ben Howard, Boone Guyton, Lloyd Childs, Larry Converse and others of testing fame whose names and pictures have appeared in newspapers and magazines for several years; there are hundreds of newcomers to the field who are doing as nice a job but who are unknown and unsung.

Writing in behalf of this large group I wish to suggest that it is not publicity they want, but more or less an official recognition for the job they are doing.

Perhaps 90% of the Test Pilots are men who would much prefer being in the Service where they could actually feel they were getting in their licks at the Axis and vent their feelings on the enemy in person but these men are trained for another purpose, to give more fortunate boys the best airplanes that can be made for the defense of our country.

Time and time again, in our own group here, our men have complained of being accosted with remarks by patriotic citizens to the effect "you look perfectly healthy, why aren't you in uniform?"; and a long explanation ensues. The pilot then wants a release so he can get into the Army or Navy which we can't give him because he is needed so much more here.

It is not my intent to write a long thesis on this subject, as I should like to do since I am started, for I realize that you are extremely busy accomplishing very worthwhile objectives through your contacts and American Aviation, and I feel that you can well understand the thought behind these suggestions.

Should you be able, through your many contacts, to enlarge upon these suggestions and get them to the right people for some action, I know it would be appreciated by all Test Pilots in the country.

Respectfully,

ARTHUR E. CHAPMAN
Chief, Flight Operations
Goodyear Aircraft Corporation
Akron, Ohio

[Editor's Note: Any suggestions?]

Santa Monica, Calif.

To the Editor:

Shame on highly reliable AA for leaving off the "t" in Courtlandt S. Gross' name (Oct. 1 issue, P. 16). Out this way he's known as "Courtlandt with a T" because so many forget how the name is spelled. Don't you feel ashamed?

R. N. A.

[Editor's Note: Yes. Very ashamed. It won't happen again—we hope!]

Los Angeles, Calif.

To the Editor:

Your editorial suggesting that we all put on our thinking caps and get rid of that ugly phrase "feeder route," so inspired one of our men one night that he got no sleep at all.

He is John LaBuono, Western Air Lines' account executive with West Marquis Advertising Agency, who has done such a splendid job with our airline copy the past year. Says John, "I read that darned editorial in bed, and spent the rest of the night tossing and turning, and with each revolution came up with another name for 'feeder route'—it was awful!"

Anyway, we think he came out of it with more than just a nightmare, for he dreamed up this suggestion—"sky urban lines." Isn't that good?

Best regards,

MIDGE WINTERS
Director, News Bureau
Western Air Lines, Inc.



This measuring glass contains slightly over half a pint of gasoline. Mixed with about 75 cubic feet of air and metered into a Cyclone 9 engine, this cupful of fuel, in contributing its share of the total power, will produce one horsepower for one hour.

No other type of gasoline engine does as much work on this amount of fuel; your car would require about 20% more gasoline to produce 1 horsepower for 1 hour. In engineering terms, the Cyclone's cruising consumption is at the rate of

0.41 pounds of fuel per horsepower per hour. Cyclones have operated on extended flights at cruising power on 0.39 pounds per horsepower hour — even less under careful control — but 0.41 represents the average for mil-

lions of hours of routine operation.

Minimum fuel consumption is determined by the engine design, depending on such factors as the compression ratio, the induction system, and the contour, size, and cooling of the combustion chamber. The carburetor's function is to provide the most desirable mixture for its engine under various conditions, but it cannot

determine fuel economy because an engine will not run leaner at a given power than its design permits.

On a ten-hour flight in a four-engined airplane the seemingly fractional difference in consumption between the Cyclone 9's average lean rate of 0.41 lbs. and the general average rate of 0.45 lbs. can amount to a saving of 160 gallons. The fuel saved with Cyclones represents almost 1,000 pounds of extra cargo or five additional passengers. In a year, this difference can mean a saving of 50,000 gallons on a four-engined plane — fuel approximately equal in cost to an engine.



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Wright Cyclones pay their way.

Cyclones and Whirlwinds · Light · Compact · Powerful

WRIGHT

Aircraft Engines



VIBRATION May Have Caused This

Common causes of mechanical failure of automobiles are vibration-loosed connections. And loose connections can result in anything from an annoying body squeak to a loose wheel—and a serious accident. The answer to any vibration-loosed connection is a vibration-proof fastening. After Victory, automobile manufacturers with an eye to added driving safety will protect their cars with Boots Self-Locking Nuts which withstand severest vibration.

More Cargo, When They Fly With Their Boots On

Cargo planes are performing heroic service ferrying men and supplies to the fighting fronts. Almost always loaded to capacity, they are constantly subjected to terrific vibration stress by engines which must strain to the limit to lift the big ships from the ground and keep them in the air. That these planes are able to "take" severest vibration without "coming apart at the seams," is due largely to the vibration-proof Boots Self-Locking Nuts which protect them.

Boots Nuts are not only tough, they are also lighter than other nuts, save many pounds on each plane... thus allow for more cargo. In addition, they can be used and re-used as often as desired—literally "outlast the plane." Boots Self-Locking Nuts, standard for every type of U. S. aircraft, meet the exacting specifications of all government aviation agencies.

BOOTS

Self-Locking Nuts For Application In All Industries

BOOTS AIRCRAFT NUT CORPORATION ★ GENERAL OFFICES, NEW CANAAN, CONNECTICUT



CAPTAIN HOELLE'S SOMERSAULT

Flipped on its back by a telephone pole a Lockheed Lightning flies home

Lightning P-38's were designed as interceptors—to climb to great heights, rapidly—to operate at peak efficiency above 15,000 ft. But action is where you find it in modern warfare, and this is the exciting, true experience of an American fighter pilot and his plane just twenty feet above the bullet-scarred earth of Tunisia.

1. CAPTAIN W. J. HOELLE and his Lightning squadron set out to break up Axis supply lines by ground- strafing trucks, tanks, troops and anything else that bore the German swastika. Up and down the Tunisian roadway they scattered men and equipment. Suddenly an enemy pillbox got its range—came too close for comfort. As Hoelle turned to blast the gun position, the tail of his plane hit a telephone pole. The plane was flipped onto its back just 20 feet above the ground.



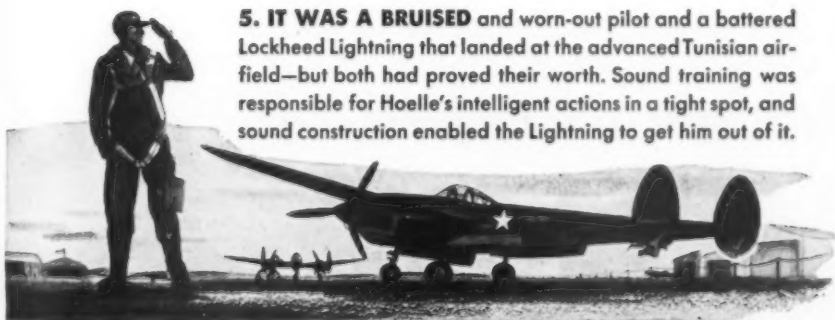
2. COOLLY, INSTINCTIVELY, Hoelle kicked full top rudder and full left aileron. The Lightning bounced crazily along through space, gradually working itself into a right bank position.

3. TOO LOW TO JUMP, too low to maneuver, impossible to land, it looked like "curtains" for Hoelle. Then he thought of lowering the wing flaps usually used for controlled landings. This gave the Lightning just the lift that was needed to pick up altitude and start home.



4. FLYING SPEED had been greatly reduced, and Hoelle's Lightning would have been easy bait for German fighters if his squadron mates had not formed a protective canopy over him for the 360-mile trip home.

5. IT WAS A BRUISED and worn-out pilot and a battered Lockheed Lightning that landed at the advanced Tunisian airfield—but both had proved their worth. Sound training was responsible for Hoelle's intelligent actions in a tight spot, and sound construction enabled the Lightning to get him out of it.



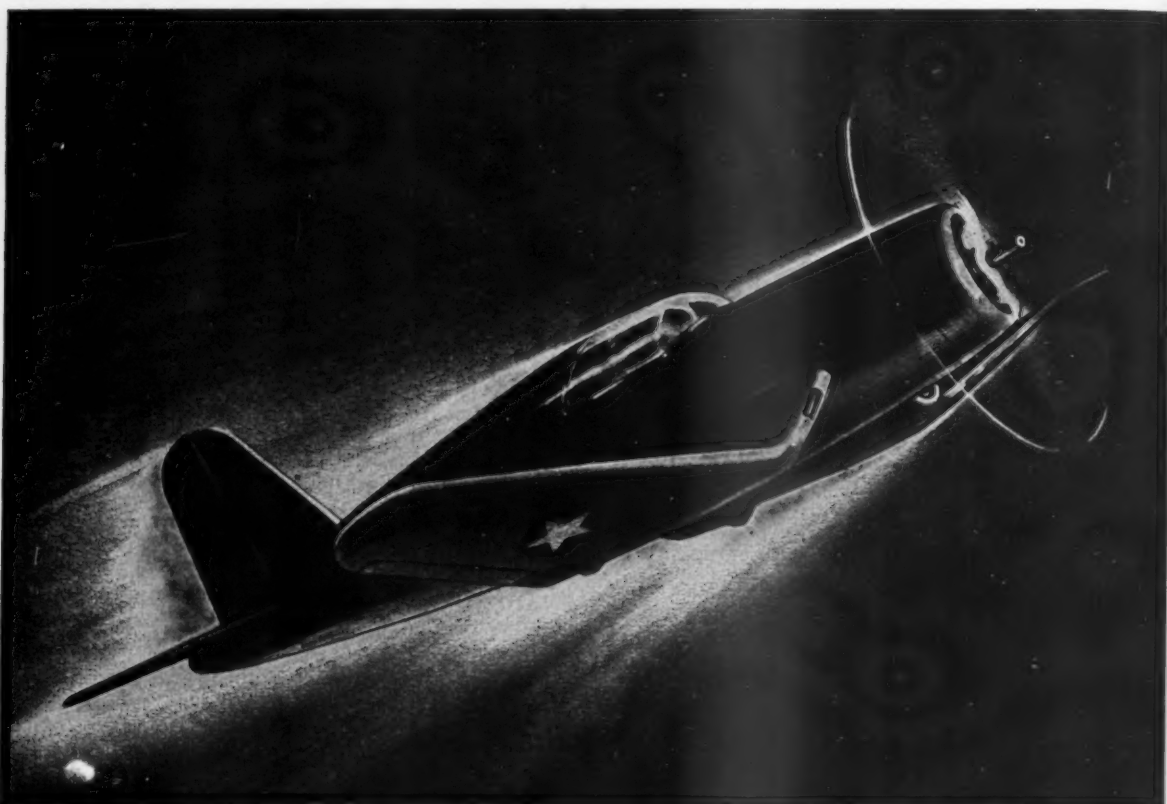
This is another in a series of stories about Lockheed and Vega and their accomplishments. Watch the pages of this magazine for another true aviation adventure.

LOOK TO

Lockheed

FOR LEADERSHIP

Lockheed Aircraft Corporation, Vega
Aircraft Corporation, Burbank, Calif.



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Reynolds

Light weight, transparent turret canopies, by Reynolds, help to give the margin of Victory to Allied fighters and bombers.

Every vital ounce of weight, saved by plastics, means they can fly higher...faster...and farther...while carrying heavier loads of bullets and bombs...Let Reynolds take your plastics problems, design or re-design, engineer, build the molds and produce to your satisfaction.

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SALES ENGINEERS IN ALL PRINCIPAL CITIES

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Lea Bill Strikes Strong Minority Revolt

Substitute Measure Would Open up Air Commerce to 'All Comers'

By KATHERINE E. JOHNSON

AN ELEVENTH hour minority revolt against major policies of the Lea Bill confronted the U. S. House of Representatives last week with a vote on three vital issues of U. S. aviation philosophy. These are:

- (1) Should surface carriers be allowed to enter the air transport field?
- (2) Should "intrastate" air commerce be controlled by States or by the Federal Government?
- (3) Should the Civil Aeronautics Authority be given independence from the Commerce Department?

The Lea bill, which would continue existing law barring surface carriers from the air transport field, give the Federal Government control over all "domestic" air commerce, including "intrastate" commerce, and grant CAA its independence from the Commerce Department, has been challenged by a Minority group of House Interstate and Foreign Commerce Committee.



Reece

A Minority bill which would open air transportation to "all comers" including surface carriers, provide State control of intrastate air commerce, and retain the "status quo" of the CAA as a part of the Commerce Department was introduced last week, by Rep. B. Carroll Reece (R., Tenn.). Committeemen aligned with Reece are: Charles A. Wolvertson (R., N. J.); Pehr G. Holmes (R., Mass.); Martin J. Kennedy (D., N. Y.); Clarence J. Brown (R., Ohio); Harve Tibbott (R., Pa.); Thomas D. Winter (R., Kan.); Evan Howell (R., Ill.); and Thomas D'Alesandro, Jr. (D., Md.).

Reece told *American Aviation* that when the Lea bill is brought up in the House, the membership would be given a chance to choose between it and his bill.

Reece's bill appears to indicate that "States rights" advocates, followers of Commerce Department heads determined not to let aviation slip from under their control, and champions of surface carriers—each group opposed to the Lea measure for different reasons—have joined in a united effort to defeat it.

"To aid and encourage the development of civil aviation" is the common objective of both the Minority and Majority (Lea) bills, the Minority group contended in a

formal report filed with the Congress. They claimed that they took issue only with "the method and means set forth" in the Lea bill "to accomplish this common objective."

Although the Anti-Trust Division of the Justice Department has consistently fought interlocking transportation systems as monopolistic and restrictive, the Minority

Group by a different approach to the facts proposed that surface carriers be allowed to enter the air transportation field to prevent monopoly.

"Eighty-one per cent of domestic air transportation in this country is done by four companies, and the remaining 19% by 15 companies," the Minority report, quoting from a speech of C. Bedell Monro, pointed out, and observed:

"The hearings before the Civil Aeronautics Board contain abundant evidence that the larger companies are desperately trying to prevent the small companies from expanding. These companies are also trying to prevent all other citizens and forms of transportation from engaging in air transportation."

It charged that the Lea bill "deliberately fosters this monopoly," as follows:

(a) *Monopoly of control of aviation by the Federal Government:*

It "excludes State and local governments from participating in regulation and supervision of aviation normally subject to State and local jurisdiction. This exclusion . . . is a material factor in indicating a monopoly to be created . . . in favor of a few major air lines."

(b) *Control of aviation on a national basis is inherent in the purpose and scope of the bill, promoting monopoly for a few existing companies.* "Emphasis on aviation as a national business protects the big transcontinental or partially transcontinental lines now operating against competition, whether from existing smaller lines or from newcomers."

"These trunk-line carriers have extensive grandfather rights. They were built up largely by Government assistance no doubt justified in the infant stage of the industry. The infant is now a giant . . ."

"Emphasis on the national aspect of the aviation business and nullification of State jurisdiction taken together tend to exclude the possibility of the institution of independent new local operations or the development of existing independent local operations either as local or feeder lines or into long-distance operations in competition with the presently entrenched operators."

"Local operations cannot be self-supporting in most instances unless also conducted as feeder lines to the trunk-line air carriers. These local feeder lines would have to make the best deal they could with the trunk-line carriers. It is obvious that any such local or feeder lines for the most part would become subservient to or be controlled by the trunk-line connecting carrier. This would develop a tendency of the existing trunk lines to control and monopolize the local and feeder lines at the sacrifice of so-called local traffic; for example, schedules of the local or feeder lines would be made in respect to connection with trunk-line

(Turn to page 46)

Aviation Calendar

Nov. 4-5—SAE National Fuels and Lubricants meeting, Tulsa, Okla.

Nov. 8-9—Air Cargo Meeting, Society of Automotive Engineers, Hotel Knickerbocker, Chicago, Ill.

Nov. 8-12—National Aircraft Standards Committee, national meeting, Hotel Lexington, New York.

Nov. 11-13—National Clinic of Domestic Aviation Planning, State Legislative Chambers, Capitol, Oklahoma City, sponsored by NAA.

Nov. 15—Air Industries and Transport Association of Canada, annual meeting and dinner, Toronto.

Dec. 1-3—Aviation Distributors and Manufacturers Association, annual meeting, St. Louis.

Dec. 2-4—National Aviation Training Association annual convention, St. Louis.

Dec. 17—Observance of Kitty Hawk Day in North Carolina, anniversary of Wright Brothers flight.

Dec. 17—Wright Brothers Lecture and dinner, sponsored by Institute of Aeronautical Sciences, National Aeronautic Association, Air Transport Association, and Aeronautical Chamber of Commerce, Washington, D. C.

OWI Hails Stabilization of Plane Output

Admits Production Goals for 1943 Will Not Be Met; Lists Improvements

By WILLIAM THOMPSON

AIRCRAFT PRODUCTION in the United States has been stabilized through achievement of an efficient balance between design and manufacture, says an Office of War Information report issued last fortnight. The report, a comprehensive study of U. S. combat plane performance, supplements and brings up to date an OWI release of October 19, 1942 covering the design and operation of U. S. combat aircraft.

The OWI admits that the aircraft production goals set for 1943 "are not going to be met." It hails, however, the end of a period of experimentation and the beginning of a period during which some designs will be eliminated in order to concentrate on production of the most successful types of planes.

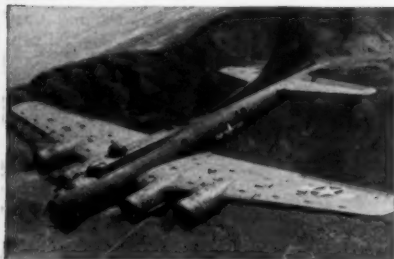
Production of combat aircraft has been slowed down by constant improvements on models already in use, and the continuing addition of totally new planes, the report explains.

"Constant development and change cannot help but have a deterrent effect on production rates," it continues. "And related to this factor of constant development, in its effect on production, are changes of emphasis within the aircraft program, such as the recent decrease in the proportion of training planes and the proportionate increase of all other types, especially heavy bombers.

"The increased stress laid on heavy bombers, and the cutting down of the proportion of much more quickly produced trainers, cannot but result in a lessening of the total number of airplanes produced even though the total poundage of production continues upward."

The report carries an explanation by WPB Chairman Donald M. Nelson concerning plane production.

"We have reached a point where we can afford to take slight temporary losses in production in order to get a more effective model," he says. "Since the combat efficiency of a plane can be determined only through actual fighting experience, design changes will always be necessary if we continue to refine and develop our fighting planes to secure the ultimate in fighting efficiency."



Boeing B-17

"... last of the small heavies."



Martin B-26

"... production is being tapered off ... despite excellent performance."

Other causes of production deficits are listed as follows:

1. Engine shortages.
2. Models still being developed.
3. Maldistribution of raw materials.
4. Reorganization of plant layout.
5. Making up shortage of spares.
6. Labor shortages.

The report terms the manpower problem on the West Coast "particularly difficult." Army and Navy aviation experts declare that American-built planes now in combat surpass enemy planes "in every major



Douglas SBD

"... has dive-bombed many a Jap vessel to the bottom."

class," the study reveals. In the heavy bomber class, the Boeing B-17 and Consolidated B-24 are said to be superior to Germany's Focke-Wulf 200 K Kurier and the Heinkel 177. In the medium bomber class, the North American B-25 and the Martin B-26 are said to be better than Germany's Dornier 217E and Japan's Nakajima 97 and Mitsubishi 01. In the light bomber class, the Douglas A-20 is said to be "in a class by itself."

The report calls Army fighters "among the world's best."

"The Lockheed P-38 Lightning has met and defeated the latest versions of Germany's two best fighters, the Focke-Wulf 190 and the Me-109, as well as the Jap Zero (Mitsubishi 00) and the so-called 'super Zeros', the Mitsubishi types 00MK2, type 01, and the very latest type 03," it says. "The new Merlin-powered North American P-51 Mustang is expected to be the equal of the Lightning, while the Republic P-47 Thunderbolt has proved itself superior to the best German fighters, especially at high altitude."

The Corsair and Hellcat are the best Navy fighters and are "far superior to anything the Japs have to offer so far,"

says the OWI. Among land-based Navy patrol bombers, the Consolidated PB4Y-1 and the Vega PV-1 have "greater range and load capacity" than the best Jap planes in this group, and the Martin Mariner PBM-3 and Catalina PBY-5 flying boats "have a range of 3,000 miles compared with the Jap Kawanishi 97 (Mavis) with a range of 2,100 miles, and an even greater superiority over the Jap plane in bomb load capacity." The report praises the Grumman Avenger TBF-1 as "outstanding" in the torpedo bomber class, but warns that the Japs are coming out with a new twin-engine, carrier-based plane. Among Navy scout bombers, the Douglas Dauntless SBD-3 is said to have a "steeper dive, is more rugged, and has better armor than the Mitsubishi 01 and Mitsubishi 97."

The report calls the B-17's and B-24's "the last of the small heavies", and announces that by the spring of 1944 "a considerably larger and more potent bomber" will replace them, at least for long-range work. It predicts that by January, 1944, production of so-called liaison aircraft ("puddle-jumpers or grasshoppers") will be at 450 a month. These planes are praised for their work behind combat lines, as general-purpose planes at Air Force stations, and for the transportation of personnel between combat zones.

The OWI reaches the conclusion that a major factor in the improvement of America's fighter planes is the increased horsepower of the liquid-cooled Allison engine and successful use of the Packard-built Rolls Royce Merlin, coupled with the development of two-stage, two-speed superchargers for light, single-seat fighters. The superchargers, which are built-in, mechanical devices, raise the effective ceiling of American fighters "at least 10,000 feet," the report states.

"In June, 1941, the V-1710 Allison engine passed the exacting 150-hour Air Corps test with a rating of 1,325 hp," it adds. "Since then, this engine, referred to as the 'big' Allison, though actually of the same dimensions as the original engine, has been further improved, turning up power in the same bracket as the Merlin 61 and the new Waimler-Benz 605, which have been reported as about 1,500 hp."

"Similar improvements have been made in the Rolls Royce Merlin, both in England and in this country. The Merlin II was (Turn to page 48)



Lockheed P-38

"... has met and defeated Germany's best fighters."

Feeder Hearing May Form Postwar Policy

Greyhound's Lengthy Cases Impressive As Proceeding Closes

By GERARD B. DOBBEN

OUT OF 2,000 PAGES of testimony and scores of exhibits, charts and scientific studies presented at the Civil Aeronautics Board hearing on local-feeder-pickup applications, which ended last week, will come the recommendations for a new policy with reference to the postwar development of aviation.

Examiners William J. Madden and Albert F. Beitel who conducted the hearings and who will make the recommendations to the Board, are now engaged in studying and digesting the mass of information which was presented at sessions which well may influence the entire future of aviation in the United States. Both of these examiners were highly impressed by the quality and excellence of the material presented.

The highlight of the second phase of the hearings was provided by Greyhound Corporation, of Chicago, appearing in behalf of its applications for 78 helicopter routes covering 49,000 miles of air travel. This bus company, obviously at great expense, put on a show that caused considerable comment in aviation circles, particularly when Robert Driscoll, general counsel of the company, suggested that airlines take minority interests in a nationwide system of helicopter air buses along with bus companies and the public.

Greyhound's presentation of Igor I. Sikorsky, engineering manager of Sikorsky Aircraft Company, as a surprise witness, followed by William B. Stout, research engineer of Consolidated Vultee Aircraft Corp., suggested that this bus company was making a serious bid for recognition in the future development of aviation.

In recommending that airlines take minority interests along with bus companies and the public in a nationwide system of helicopter air buses, Driscoll stated that the railroads now have stock interests in a number of intercity bus lines, although highway transportation was once opposed by the rails. He contended that such a cooperative arrangement in the organization of local air service would mean that the bus operators' experience in the development of local traffic, together with its facilities in most of the smaller communities, could be combined with the valuable technical knowledge of the established air lines.

Should the government grant Greyhound and other bus lines permission to operate helicopter air buses, the added service will be closely integrated and coordinated with highway and rail schedules and will also act as a feeder to transcontinental air lines, Driscoll stated.

"If established airlines would participate in the development of local air service by intercity bus companies, competitive problems within the passenger transportation industry could be completely avoided," Driscoll testified.

Sikorsky spent two hours testifying principally about a 14-passenger, two pilot, twin-engine helicopter which he said would have a gross weight of from 12 to 13,000 pounds, room for 400 pounds of cargo, 4,200 pounds of disposable load, a 100 miles per hour block to block speed with fuel carrying capacity of 100 gallons for 150 miles of travel.

"This helicopter has not yet been constructed but from our knowledge and experience we believe it could be built immediately and it would be practical and feasible in every way," Sikorsky stated.

The model which Sikorsky described was designed by Raymond Loewy, of New York, consultant in the transportation field, for Greyhound Corp. Sikorsky said that a 12,000 to 15,000 pound helicopter, while not yet here, can be built in the near future and that craft weighing twice that much and up to 40,000 pounds are entirely possible. "We do not yet know whether craft of that size would be practical," Sikorsky added.

Asked how soon the 14 passenger air bus model could be constructed as an operating helicopter, Sikorsky said: "1 to 2½ years. Right now I'd have to say 2½ years." If the war continues, Sikorsky stated, actual production of the first helicopter of the type discussed would be expedited because his company now is doing considerable testing with Army craft and this development and engineering will all be directly applicable to commercial production when the war ends. Sikorsky testified of the many features of the helicopter which he felt will make it a real factor in the postwar development era.

The plane Sikorsky described had two 600 horsepower engines, passenger entrances with retractable steps, an overall length of 80 feet with rotor blade extended, could land and takeoff in a space 40 by 40 feet but a more ideal landing

area of 200 by 350 feet for two helicopters was desired, could fly to heights of 10,000 feet and considerably higher if super-charger equipment was employed. Sikorsky said he could best describe its controllability by stating it compared favorably with that of an automobile, that traveling at identical speeds it could be stopped quicker than an automobile, that there was no reason if the need arises, why the plane could not be operated by an automatic pilot. He further stated that the helicopter has a 95% favorable conversion factor from the military to commercial type of plane.

Two Canadians—A. H. Foster, vice president in charge of operations of Gray Coach Lines and Irving T. Fairty, vice president of the same company and general counsel for the Toronto Transportation Commission, made a special trip from Canada to hear the Greyhound witnesses. A 20 minute movie of the Sikorsky plane in flight maneuvers was shown at the hearing.

Stout made but a brief appearance in behalf of the Greyhound case, testifying largely to substantiate what Sikorsky had said about the potentialities of the helicopter for such uses as is envisioned by Greyhound in its integrated operation of bus and air service. Stout, like Sikorsky, said that he too had encountered many skeptics in his work as a designer of aircraft.

Arthur M. Hill, vice president of Greyhound Corp. and president of the National Association of Motor Bus Operators said he doubted whether the "spoke and wheel" type of feeder operation would ever be profitable. He said he based this observation on his experience as a bus operator who had found that the greatest movement of traffic was not to and from the market center but rather between communities along established

(Turn to page 69)



Shown listening to testimony at CAB's feeder-pickup investigation are, left to right, Robert Driscoll, general counsel for Greyhound Corp.; John R. Turney, Greyhound attorney, and William B. Stout, of Consolidated Vultee Aircraft Corp., who testified for Greyhound.

Patterson and Warren Differ on Contract Termination Policies

A JURISDICTION BATTLE between Under Secretary of War Robert Patterson and Comptroller General Lindsay Warren highlighted Congressional hearings last fortnight on government contract termination policies, which it is estimated, will effect 90 to 95 per cent of the business of aircraft manufacturers when the war ends.

Patterson contended that the War Department and other procurement agencies of the government have authority to make conclusive termination agreements with industry. Warren, on the other hand, maintained that all termination agreements are subject to review by his General Accounting Office.

Patterson stressed the need for immediate and final settlements on termination of contracts to avoid economic chaos in the postwar. He pointed to the delays which would be involved in review of agreements. If the GAO is given review and veto powers over Department termination agreements, he said, this "would really amount to a brand-new negotiation and would rob the original settlement of any real significance."

Two major objectives of the War Department in terminating contracts, Patterson said, are: "First, the fair and final adjustment of cancelled contracts at the earliest moment consistent with adequate protection of the Government interest; and second, the provision of adequate means for interim financing of contractors whose contracts have been terminated."

He outlined the following plan to attain these objectives:

1. Termination adjustments must be effected by negotiated agreements.
2. The negotiations must be final and not subject to reopening by any independent agency, except for fraud.
3. The negotiations must be conducted by the procurement agencies. Patterson proposed that an interdepartmental committee be set up so that procurement agencies would formulate uniform contract termination provisions.
4. Protection of Government Interests. The War Department, Patterson said, is capable of setting up adequate machinery within itself to safeguard the Government against unwarranted claims by contractors in terminating contracts.

Warren, on the other hand, argued before Congressmen that "in the interests of taxpayers" a review of all contract termination agreements of the procurement agencies by the GAO is requisite. The issue now facing Congress, Warren said, is "whether billions of dollars are to be spent in terminating contracts without any check."

Rep. John Costello (D. Calif.) pointed out that Congress on the one side desired to protect taxpayers' funds by review and on the other side, clearly saw the necessity for reaching conclusive termination agreements and making final payments to contractors in the economic interests of the country.

Warren claimed that GAO "can set up special machinery to give immediate and prompt action to all contracts." Whatever additional time might be spent in the process of Washington review of agree-

ments by his Office, he declared, would be justified.

Costello suggested that GAO establish men in the field who could make final the agreements negotiated by contracting officers of the procurement services. Warren said that this procedure is "feasible." He indicated that his present plan, however, was review of all agreements at the Washington Office, and assured Congressmen that when the onrush of contract cancellations got underway after the war, GAO would not allow tentative agreements to accumulate in "enormous" amounts before giving its final stamp of approval.

In cases of large contractors, such as Douglas Aircraft which has 4500 subcontractors, Costello proposed, it would be difficult for GAO to act expeditiously. He elaborated by saying that delay in termination payments in certain cases might wipe out the capitalization of industries with small working funds and large current expenses.

Warren recommended that contractors be given an immediate payment of 75 per cent of the estimate termination price. (Patterson recommended 90 per cent). He pointed out that this payment would tide contractors over until final determination was made. Costello suggested that this would not materially remedy the situation because it would confront contractors with the possibility of having 30 to 40 per cent of their preliminary payment ordered recaptured by the GOA in its determination.

Brazilian Woman Grad



Senora Annesia Pinherio Machado, wife of a high Brazilian military official, and C. J. Tippet, Senior Aeronautical Inspector (Flight), are pictured at the Washington airport. Senora Machado recently was awarded an instructor and instrument flying rating by CAA at Houston. Tippet returned recently from Argentina where he has helped standardize inspection methods. Both are expected to return to Brazil shortly to aid in the Civil Air Training program there.

Berlin Papers Please Copy!

A "model German communique" for Berlin's future use has been circulated by public relations men of the Eighth United States Air Force in London as follows:

"Large formations of huge American bombers attempted to penetrate western Germany today, but were driven off by hordes of our brave fighter pilots. Forty-seven enemy bombers were shot down. One of our fighters was lost.

"One of our cities is missing."

Oklahoma Clinic May 'Boil Down' Postwar Talk to Policy Basis

Speakers covering every phase of the aviation field have been scheduled for the "National Clinic of Domestic Aviation Planning" to be sponsored by the National Aeronautic Association in Oklahoma City Nov. 11 to 13.

NAA officials say the clinic will attempt "to boil down postwar planning talk to the bedrock of a basic policy on which all components of American aviation can agree."

Advised of the conference, President Roosevelt wrote to NAA President Gill Robb Wilson: "The aviation industry has done, and is doing, a splendid job in the all-out prosecution of the war. While the industry's attention must not be diverted from this all-important and vital task, at the same time it is appropriate to plan for the future economic, political, and social well-being of the industry and of our nation. It is good to see the various branches of the aviation industry and responsible state and federal officials work together in this important field."

Among the speakers and discussion leaders will be:

Col. Edgar S. Gorrell, president of the Air Transport Association; C. Bedell Monro, president of Penn-Central Airlines; Merrill C. Meigs, vice-president of the Hearst Corporation; Oliver L. Parks, president of Parks Air College; C. S. (Casey) Jones of Casey Jones School of Aeronautics; John F. Victory, secretary of the National Advisory Committee on Aeronautics.

Igor Sikorsky; Mayor Fiorello H. LaGuardia of New York; Col. John H. Jouett, vice-president of Higgins Aircraft; Carl B. Squier, vice-president of Lockheed Aircraft; Dudley M. Steele, manager of the Lockheed Air Terminal; Frank P. Fogarty, National Association of Commercial Organization Secretaries.

Dr. A. C. Willard, president of the University of Illinois, William A. M. Burden, Special Aviation Assistant to the Secretary of Commerce; Joseph P. Geuting, Jr., vice-president of General Aircraft; George A. Bryant, Jr., president of the Austin Company; Russell Forbes, research director of Air Cargo, Inc.

Capt. Eddie Rickenbacker; Rev. John F. McManus, national chaplain of the American Legion; Col. Roscoe Turner; Bruce Uthus, education director of the Civil Aeronautics Administration; Dr. Frank W. Hart, University of Southern California.

Colorado Grants Intrastate Air Route to Truck Operator

Service Expected to Open Soon Without CAB Certification

THE Civil Aeronautics Board last fortnight had its eye on a proposed intrastate air operation over which it probably has no authority unless interstate traffic is carried.

As Congress tried to decide whether intrastate operations should be controlled by the federal government or by the states, the Colorado Public Utilities Commission granted S. N. Drum, truck operator, permission to operate air service between several points all within the state of Colorado.

If and when Drum opens service, he will be operating without a CAB certificate.

Drum received permission to fly between Durango and Denver via Alamosa and Pueblo, and may also operate call and demand service between those points and Grand Junction, Montrose and Delta, and between the last named points, "except that no service shall be rendered which originates in either Pueblo or Denver and is to be delivered in either Denver or Pueblo. . . ."

Drum is expected to open service as soon as he secures flying equipment. He testified at hearing that he was assured of two planes, one a bi-motor and one a tri-motor, on which he expected to get delivery immediately, and which would meet all CAB safety regulations. The PUC, in granting the certificate, ordered the carrier to comply with all rules and regulations of CAB " . . . relating to safety measures and liability insurance requirements for common carriers of passengers by plane."

CAB will probably do nothing about the situation, at least until service actually opens. Three years ago when Canadian Colonial Airways inaugurated intrastate service between New York and Niagara Falls without a CAB certificate, the Board checked on passengers, claiming that some of them originated from or were destined to points outside New York. Thus, it said, the company was engaging in interstate commerce. Suit was filed by the Board in New York district court and the operation was subsequently discontinued by consent decree.

Some officials believe that if Drum carries no interstate traffic, no action against him is possible under present law. If, however, it is discovered that he is transporting passengers—or cargo—originating from or destined to points outside Colorado, it may be found that he is engaging in interstate commerce and is thus in violation of the Civil Aeronautics Act.

Drum, according to the PUC decision, is engaged in the motor truck transportation business. He will join with Ralph Burris of Durango and incorporate Col-

orado Airways Corp., into which each man will put \$20,000 to start the company.

Opposing the Drum application before the Commission were Continental Air Lines, Rio Grande Motor Way, Inc., and Ray Wilson, Inc. (Wilson was awarded a PUC certificate 4 years ago but has not started operations because of equipment shortage, because they "were loath to start operating . . . until . . . fully approved by the Civil Aeronautics Board," and because they are busy establishing a contract flying school for the Army.)

"Upon the record as made it would appear that a substantial demand exists for the proposed operations of applicant; that he has the financial ability to at least start operations," the PUC decision said. "None of protestants were prepared to say that they would be in position to start operations over this route at any particular time, and in no event until after the close of the war."

"Applicant testifies that he is in a position to obtain the necessary equipment to conduct the operation and is prepared to go ahead at once. If the public convenience and necessity require the proposed service, and there is no evidence in the record disputing the testimony to this effect, it would seem unfair to the public who would avail themselves of such service to deny them the opportunity of having same merely because of the companies, who, sometime in the distant future, think they might desire to serve the area in question. Applicant will not be able to start operations if he cannot obtain equipment, and this equipment must be of such a character, and in such condition, that it will be found airworthy by the Civil Aeronautics Board

1st Sky Expressman



Transcontinental & Western Air's first sky expressman, Cargo Agent William Manning, prepares to board the airline's first all-cargo plane at Kansas City when regular TWA all-cargo schedules went into effect Oct. 11. Bidding the cargoman bon voyage is Roberta George, chief TWA ticket agent at Kansas City.

Mystery

The monthly informal breakfasts given to aviation people, Congressmen and government officials by the National Aeronautic Association have been a big success in attracting attendance. It has been customary to take photographs of prominent individuals attending the affairs. At the last breakfast, however, a photo was taken of three prominent individuals including a government official, a Congresswoman, and an airline official. Very mysteriously the photo was not obtainable later on—the photographer said the plate had broken. Everyone's wondering which one of the three individuals "bought up" the camera plate.

before he would be permitted to start a commercial line. Whether or not the line will be profitable after service is installed is something that can only be determined in the future, but the evidence is undisputed that the applicant will have ample finances to give the venture a fair trial.

"The question was raised by counsel for Rio Grande Motor Way, Inc., that no certificate of public convenience and necessity is required for transportation of United States mail, and we believe this position is correct.

"After careful consideration of the record, and the testimony given at the hearing, the Commission is of the opinion, and finds, that the public convenience and necessity require the proposed aeroplane operations of the applicant for the transportation of passengers, baggage and express over the proposed route."

Aviation Men Scheduled to Lecture at American U.

The American University School of Social Sciences and Public Affairs will feature lectures by the following aviation authorities during the current semester:

L. Welch Pogue, chairman of the Civil Aeronautics Board.

Edward P. Warner, vice chairman of the CAB.

George C. Neal, CAB's general counsel.

Roland P. Monson, chief of CAB's rates and audit division.

C. Bedell Monro, president of Pennsylvania-Central Airlines.

Col. Smith Honored

The Distinguished Service Medal posthumously awarded to Col. W. Sumpter Smith, who was lost at sea in an airplane accident last January, was to be presented to Mrs. Smith by an Army official at the Tutwiler Hotel in Birmingham on Oct. 28. Special arrangements were made by the Birmingham Aero Club and by Hayden Brooks, chairman of the Alabama Aviation Commission.

Maj. Six Ill

Major Robert F. Six, former president of Continental Air Lines and now on active duty with the Air Transport Command, is seriously ill in a hospital in West Palm Beach, Fla. He has been stationed at Morrison Field, West Palm Beach.

NWA's Precedent-Setting Tax Case Rests In Court

By CLIFFORD GUEST

CONFLICTING TAXATION THEORIES, one of which may establish for the first time a basis for future taxing of airlines, were argued before the United States Supreme Court last fortnight in the appeal of Northwest Airlines, Inc., from a decision of the Minnesota Supreme Court holding it liable to a 100% ad valorem state property tax on its entire fleet of planes.

While the airline contended that such tax is in violation of the due process clauses of the Constitution and developed other strong arguments, the prime issue of the case appeared to narrow down to:

1. Whether airline taxation should follow the railroad pattern, with taxes levied on the proportion of equipment within a given state.

2. Whether it should be analogous to steamship taxation following the principle of levying taxes in the home port or state of domicile.

3. Whether there may be a combination of the two forms of taxation.

The air transport industry is eagerly awaiting the ruling of the Supreme Court which will be the first high court action in the complicated field of airline taxation and probably will set a precedent affecting all future operations. It may also bring a better delineation of the multiple-taxation threat inherent in airline operations over many state jurisdictions. It will give state taxing authorities their first overall pattern for assessing airplanes in interstate commerce.

Attorneys for Northwest, M. J. Doherty and W. E. Rumble of St. Paul, in a brief filed with the court, summarized the Northwest argument:

"Minnesota is without jurisdiction to tax the entire fleet of the Airlines' planes on a full ad valorem basis. It can, within its constitutional power, tax only that proportion of the fleet which is regularly and habitually used in the state. A corresponding right is enjoyed and is in fact exercised by each of the other states through which the planes operate, and the authority in such other states to tax proportions of the fleet is incompatible with authority in Minnesota to tax the whole. (Northwest crosses the northern extremity of Idaho, but it makes no landing in that state and has not been taxed there.)

"The tax situs of tangible property is controlled by its 'permanent' physical situs. Such property can have but one situs. This is subject, however, to the rule that different proportions of the same aggregate of items of tangible personal property may under certain circumstances have different situs, although each proportion can have but one.

"The familiar example is railroad rolling stock used in interstate transportation operations. Such property may be taxed by each state through which it passes only on a proportionate basis, and is not taxable in its entirety by any state. Habitual presence and use of a proportion of such

property in any state gives that proportion a 'permanent' situs in such state within the rule governing the power to tax.

"The rule of the rolling stock cases should be applied to commercial airplanes operated in interstate flights. Since a proportion of the airlines' fleet of planes had acquired situs and was taxable and taxed in states other than Minnesota, only the remaining portion was subject to tax in the latter state. The proportion or proportions having situs and being subject to tax in other states are beyond Minnesota's jurisdiction.

"The taxation by a state of property beyond its jurisdiction constitutes the deprivation of property without due process of law, in violation of Section 1 of the 14th Amendment. If (as in this case) the property so taxed be employed in interstate commerce, there is also a violation of the commerce clause of Article I. Aside from the strict question of jurisdiction, multiple taxation of the instruments of interstate commerce constitute such a burden on that commerce as to infringe the commerce clause."

Northwest cited numerous previous court cases dealing with taxation of railroad rolling stock in which it was held that only the average number of cars ope-

'Largest' Rubber Stamp



Pan American Airways says this is the largest rubber stamp of the type in use in the air transport industry. Used for labeling express shipments, it weighs 5½ pounds, and measures 10½ inches long and 9½ inches wide. Its numerals are one inch high. Marguerite Guerra, stenographer in the mail-express office at PAA's transatlantic base in New York, finds it is quite a handful.

Background

The complete background of the precedent-setting Northwest Airlines tax case, together with a review of the Minnesota Supreme Court decision holding a 100% property tax justifiable in "state of domicile" appeared in the Oct 1 issue of American Aviation.

rating within a state could be taxed by the state, regardless of where the home office or headquarters of the owner were situated.

The Minnesota supreme court had held that the fact Northwest Airlines' major overhaul and repair shops were in Minnesota subjected the company to the benefits of Minnesota law and protection, and therefore to full taxation. Northwest attorneys contended, however, this fact is not of controlling significance and that the corporate domicile and business headquarters of the airline "could at most draw the property in question to the jurisdiction of Minnesota for taxation only if that property had no tax situs elsewhere." They pointed out that the court had agreed other states did have a right to tax the line.

Northwest disputed the Minnesota claim to authority for full taxation predicated upon governmental protection given by the state, pointing out that the Minnesota Supreme Court had recognized the right of other states to tax a proportion of the line's planes and therefore recognized that those states also return an equivalent of protection.

The line argued further, "If such a claim be sustained, then a dozen or more states traversed by an air route might with equal show of right impose a full tax upon the air transport company's entire fleet of planes upon the pretext of an equivalent of protection. The havoc which might be wrought upon this industry by such a doctrine can readily be seen."

Northwest disputed the state claim that taxation of airplanes should be at the point of domicile, analogous to steamship taxation, and analyzed several court decisions to support its argument such would not solve the problem of airplane taxation.

Representing Minnesota were Assistant Attorney General George B. Sjosellius, James F. Lynch, Ramsey County Attorney, and Andrew R. Bratter, his assistant.

In their brief they contended that taxation of airline planes at point of domicile would actually be in the best interest of the industry, asserting:

"It would avoid the necessity of having one rule for planes engaged in interstate commerce flying from state to state; another for planes flying on non-stop flights over intervening states in which they do not stop; and still a third for American planes engaged in foreign commerce.

"So far as aviation is concerned, it would require each company to deal with only one assessor and with one state, the state of domicile. It would avoid the complications arising from the different formulas that each state might adopt. It would avoid the difficulty of determining the number of planes that each state might tax. In short it may be truly said that it is the only rule under which we can be

(Turn to page 49)

Spadework for Victory

Behind today's spectacular military success is a story of vision and daring that goes back to 1941 . . . to the first high-silica bauxite dug from Arkansas mines for Reynolds plants. For that shovelful of bright earth foretold a great new source of aluminum for America . . . a *domestic* source, immune to the threat of U-boats, unrestricted in quantity, demanding only the right kind of plant facilities to supply the largest and strongest air fleets ever dreamed of.

Reynolds built that kind of plant. Completed in the world-record time of five months and twenty-nine days, it is still the only plant in the country where bauxite comes in at one end and aluminum sheet rolls out the other. What is more, that plant was deliberately planned to process bauxite from good old American soil. This, long before Pearl Harbor . . . may aptly be called "Spadework for Victory."

But Reynolds does not rest upon past laurels. Reynolds takes the lead in prefabricating airplane parts at the aluminum source. Reynolds metallurgists look ahead for new aluminum alloys that will give even greater striking power to Allied airmadas. And Reynolds original skill, as the world's largest roller of aluminum foil, promises still further triumphs in the light-metal age of tomorrow.

The march is on . . . toward *Leadership in Aluminum*.



Actual color photograph of domestic bauxite ore from Reynolds' own mines.



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AND DEPENDABLE for training glider pilots in the basic principles of motorless flight, preparatory to actual combat maneuvers, are training gliders such as this Hyland-equipped AERONCA, TG-5...



BUT BASIC training for pilots of engine powered aircraft is relegated to stable primary trainers like this FAIRCHILD "Cornell." Control fixtures by Hyland do their part in making it reliable for training flight...



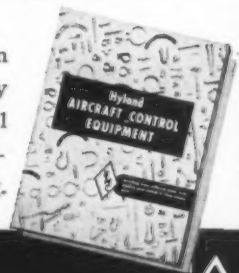
ADVANCED TRAINING for bomber pilots is started in this typical twin-engine training plane, CESSNA, AT-17, equipped with Hyland rod ends and control fittings...

FURTHER ADVANCED gunnery training is made possible by twin-engined aircraft such as this FAIRCHILD "Gunner," fully equipped with bomb doors and gunners stations and Hyland control fittings, clamps, clips and eyebolts.



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DAYTON, OHIO



Two Congressmen Favor Giving Shipping Interests Air Rights

UNITED STATES shipping firms should own and operate aircraft so that they may successfully compete with foreign lines having supplemental aircraft, it was argued by two House leaders last fortnight.

Rep. Emanuel Celler (D., N.Y.), second-ranking member of the Judiciary Committee declared that if our shipping firms are to compete successfully with foreign steamship companies they "must and should have the right to enter the airplane field."

Chairman Schuyler Otis Bland (D., Va.) of the Committee on Merchant Marine and Fisheries endorsed Celler's view.

Reciprocal rights for airline companies to operate ships may follow as a necessary corollary to the doctrine of allowing shipping firms to operate aircraft, Celler suggested.

"It may be that existing or future airplane companies may likewise find it essential . . . to apply for steamship line franchises. So be it," he said. "That reciprocity would be a small price to pay in order to protect and augment our present merchant marine."

Celler drew a distinction between foreign and domestic commerce, but he did not propose clear-cut opposition even to the entrance of steamship lines in the domestic aviation field. "It may be that steamships should not enter the domestic airfield, but when it comes to consideration of, say, the Cunard Line, that is privileged to have airplanes traveling over Africa, Asia, and South America, our companies, in common parlance, would be in the hoosegow and could not possibly hope to compete with the Cunard Line in Africa, Asia, or South America, unless they, like the Cunard, had planes to compete with Cunard planes," Celler declared, continuing:

"The same thing would apply, for example, to the French Line in Syria,

Palestine, and Lebanon, in two of which countries the French is the mandate power. If we tried to compete with the French Line in the Mediterranean and we have not airplane transportation supplemental to our steamship transportation, again we will be in the doldrums. The French Line would beat us to the punch. The same would hold true with reference to the Holland lines in the East Indies, Hong Kong, and India. Preservation of American steamship routes may require the aid of planes."

Rep. Thomas Rolph (R., Calif.) pointed out to the House that Matson Navigation Co., which has been operating ships from the mainland to Hawaii, should, "now that air transportation has been developed . . . be permitted to have the franchise" to operate aircraft over the route. Celler agreed: "That line certainly should have the right to supplement its steamship lines with air transportation. Weather conditions might preclude a steamship from going along a certain route, or it may wish to hasten the transportation of certain types of freight, and it should have the right to use planes in that respect. Assuredly some foreign steamship line might easily force our American ships off the water, if in addition to ships, they had planes flying from San Francisco . . . and Hawaii, whereas our line would be sans ships."

Integrated use of different modes of transportation does not mean the elimination of competition, Celler maintained. He opposed monopolistic conditions in transportation, and said: "We want free and open competition, we want no monopolies, be it on land, sea, and air, or combination of any of the three. But we can still have competition and allow steamship companies to apply for air franchises over foreign land. The right to apply to some Federal body should exist and if public convenience and necessity exists the franchises for air routes should be granted."

Football Teams Take to Air

Two football squads—one from Duke University, the other from the North Carolina Navy Pre-Flight School—recently were transported by glider and transport plane from Chapel Hill, N. C., to Camp Mackall, N. C. for an exhibition game. It was believed to be the first time in history that two football teams traveled to the site of a game by air. The squads assembled at Chapel Hill and took off in three C-47 transport planes, each towing a CG4A carrier glider. Half of the group rode in gliders, the other half in transports. The trip from Chapel Hill to Camp Mackall, a paratrooper training base, was completed in 45 minutes. The teams were composed of members of the junior varsity squads of the two schools.

Personnel of Army-Navy Production Survey Group Complete; Powers Chosen

With the promotion of Col. E. M. Powers, formerly administrator of the aircraft scheduling unit, Aircraft Resources Control Office, at Wright Field, to a place on the Army-Navy Production Survey Committee, personnel of that committee was recently completed.

Col. E. W. Rawlings, who has been in charge of the Resources Control Section at Wright Field, was designated to succeed Col. Powers as head of ASU.

The Army's second representative on the Production Survey Committee is Maj. Gen. Richard C. Moore, assistant chief of staff for requirements. The Navy is represented by Rear Admiral Thomas B. Richey, of the office of procurement and materiel, and by Rear Admiral Roland M. Brainard, recently returned from sea duty.

The Committee was created at the suggestion of President Roosevelt and charged "with advising the joint Chiefs of Staff on changes in the procurement program of the Armed Services in the light of war developments, production progress, and changing military strategy." It will be responsible only to the joint Chiefs of Staff and will "provide machinery for full coordination of the military and civilian branches."

In announcing plans for the Committee last month, a statement by the President said: "Constant attention is required to insure that our military programs are kept in step with altered military objectives, and that production programs are changed in accordance with lessons from the battlefield and the assembly lines."

tenance of beacon systems, the provision of weather information, and the regulation of pilot licensing.

"For the motor vehicle tax field the coordinating device here recommended is separation of sources, the Federal government to withdraw from the field as much and as soon as its financial exigencies will permit. . . . Federal collection and state sharing and other coordinating devices, would create more problems than they would solve."

Treasury Committee Says U. S. Alone Should Tax Aviation Gas

ONE OF THE MOST constructive suggestions in the increasingly muddled field of aviation gasoline taxation has been advanced by the U. S. Treasury Department's Committee on Intergovernmental Fiscal Relations.

This committee, appointed at the suggestion of President Roosevelt to study overlapping tax problems and suggest remedies, has proposed that taxing of aviation gasoline be reserved exclusively to the Federal government and that taxing of all other motor fuels be left exclusively in the hands of the states.

Full text of the recommendation, contained in Volume 1 of the Committee's report entitled "Major Conclusions and Recommendations" follows:

"Looking to the future, it is suggested that Federal and State separation of sources in the motor fuel tax field might take the form of exclusive Federal taxation of fuel used in aviation, and exclu-

sive State taxation of other motor fuel. This recommendation presupposes that aviation gasoline will remain a product separate from motor vehicle gasoline. If the two products were to become interchangeable, separation of sources might not be administratively practicable.

"Two-thirds of the states now exempt aviation fuel from state taxation, and the remainder either have special aviation tax provisions or do not receive much revenue from this source. Potentially, however, the field is promising. It is appropriate for the Federal government, since aviation is essentially an interstate enterprise and the licensing of airplanes and the regulating of air travel are already national. If the Federal government so desired, it might use the yield of the aviation fuel tax to finance the construction and maintenance of free public airports, the laying out and main-

Vice President Warns of Railroad 'Plot'

Wallace Urges 'Clean-Cut' Congressional Policy As Aid To Growth of Airlines

CHARGES THAT THE RAILROADS of the nation are plotting to seize control of air transportation and prevent competition from the carriage of air cargo were made by Vice President Henry Wallace in an address Oct. 20 before civic and labor groups in Dallas, Tex.

Wallace called for "a clean-cut declaration of legislative policy" by Congress to insure "to the newer forms of transportation an opportunity to develop without suppression." He warned that if "monopoly interests" succeed in keeping air rates high, development of air transport and the country will be retarded.

Vigorously condemning what he called "the financial exploitation of our railroads, which has placed an unbearable burden on the people," Wallace cited numerous examples of "monopolistic conditions in transportation" and "non-competitive rates (which) deprive agriculture and industry of the benefits of more efficient and cheaper forms of transportation."

"The coming of the air age," he said, "can bring to the people of this country new industries, new outlets for goods, and greater freedom of movement. But if monopoly interests are successful in keeping air rates high, we shall be barred from this new frontier, and our nation's development will suffer."

The vice president devoted a large part of his address to condemnation of the proposed plan for integration of all forms of transport into regional systems (*American Aviation*, Aug. 15) as a "sugar-coated plot" of the railroads to seize control of air transport.

Of this scheme, he said:

"Those who guide the destinies of the railroads and seek to preserve their financial position are not content with the cartel controls which they now exercise over all domestic transportation. They propose to solidify and make permanent their empire through the enactment of legislation designed to permit the creation of a permanent monopoly of public transportation under the control of the railroads.

"The plot has been sugar-coated to deceive the people. In the name of efficiency and economy, and under the slogan 'Preserve the enterprise system,' it is proposed that Congress permit the creation of 'integrated transportation systems,' each of which would control and operate all rail, motor, water and air transportation facilities throughout large geographic areas. If the railroads are able to establish such regional monopolies controlling air, water, and highway rates they will be in position to hand out favors or penalties to every community in the United States. They can determine the location of industry and population.

"Under such a system they could freeze ancient injustices and stifle new opportunities. If they should unhappily persuade Congress to set up such a series of regional transportation monopolies I am convinced the public would arise in its wrath and insist on public ownership of all transportation. In my opinion trans-

portation methods have not yet reached that state of static perfection which lends itself either to monopoly control or Government ownership. Therefore I hope Congress will be on guard to fight the transportation monopoly whenever this Wall Street inspired creature lifts its ugly head in Washington."

Wallace asserted that "private rate-making machinery of the railroads is highly organized," that the Interstate Commerce Commission actually exercises little control over rates which are dictated by the private rate-making bureaus of the carriers.

"Not satisfied with eliminating competition in surface transportation," he said, "the railroads have even extended their control to the airways to prevent any competition from the carriage of air cargo." He recounted the exclusive contract between Railway Express Agency and the domestic airlines and said: "Despite the assertion of aviation authorities that cargo planes can be operated at 8 to 10 cents per ton mile, air express rates are artificially held at 80 cents per ton mile."

Asserting that the day of accounting has come and that "destructive practices in transportation and suppressive governmental policies under which monopoly thrives must now yield to the needs of the common man," Wallace called upon Congress to pave the way for breaking of monopolistic controls:

Vega's 'Chin Turret'



A remote-control powered "chin turret" with two 50-calibre machine guns is now standard equipment on the B-17G which is rolling off the assembly lines at the Burbank, Calif., plant of Vega Aircraft Corp. The new turret is located directly underneath the bombardier's compartment in the plane's nose.

"A clean-cut declaration of legislative policy must insure to the newer forms of transportation an opportunity to develop without suppression. Competition must be restored. This does not mean chaotic competition as some would have you believe. These are regulated industries, and the Interstate Commerce Commission should protect the public interest in transportation in accordance with the direction of Congress. We can cry out against the existing evils in transportation, but this is futile unless we do something about it. The industry has failed to offer anything constructive and, therefore, the people must look to their duly elected representatives in Congress.

"Our greatest need is to recast our transportation laws to insure the utmost development of each form of transportation. Thereby present and prospective monopolistic controls will be broken; regional rate discriminations will disappear and transportation will then truly serve the public interest. In this struggle for economic freedom Congress will not fail the people."

Development of Aviation Gas from Coal Proposed In Bill Before Congress

Legislation designed to promote experimentation in the development of liquid fuels, including aviation gas, from coal has been introduced by Rep. Jennings Randolph (D., W. Va.).

The bill would authorize the construction and operation by the Government of demonstration plants. The House Committee on Mines and Mining will open hearings on the measure shortly, Randolph told *American Aviation*.

In connection with the legislation, Randolph called attention to the fact that the nation's supplies of liquid fuel are being rapidly depleted, that it is now estimated that the nation's known petroleum reserves of about 20,000,000,000 barrels will last only about 15 years at the present rate of consumption.

He declared that "the gasoline made from coal can be made as good as any high-grade aviation gasoline that flies our bombers in their missions over Berlin and Naples." He pointed out that Germany is now getting from one-half to two-thirds of all her liquid fuels from coal and claimed that it is the Government's responsibility to develop the process of making fuel from coal to the point where it can be "profitably" undertaken by industry.

Correction

In an article on Page 28 of the October 15 *AMERICAN AVIATION*, a statement was attributed to Charles E. Wilson, Executive Vice Chairman of the WPB, that aircraft production for 1944 should be about 80 billion dollars compared with 63 billion dollars for 1943. These figures are for total war production, not merely aircraft as the article indicated. Aircraft production alone will amount to something over 20 billions this year.

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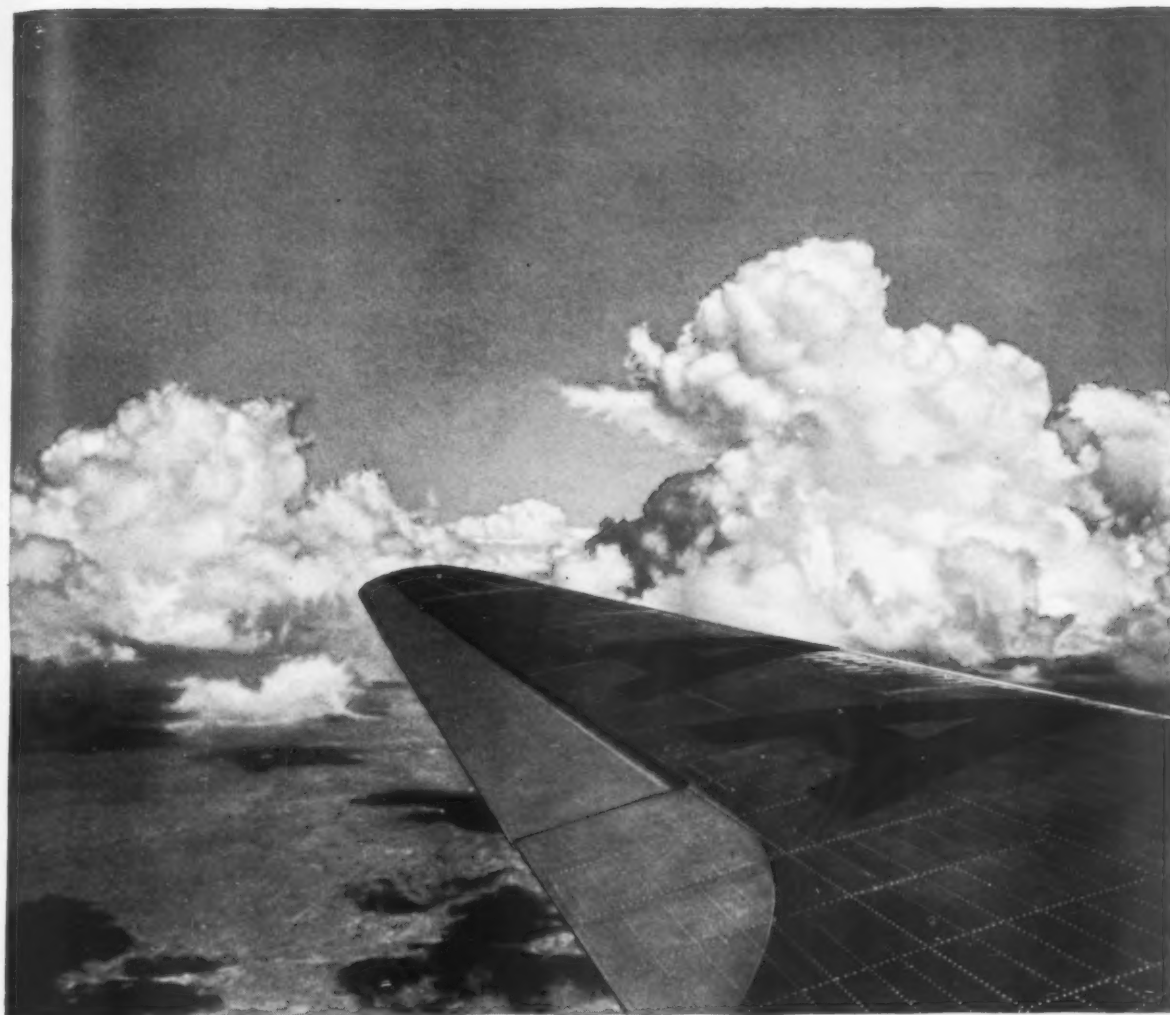
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UP WHERE A MAN CAN THINK

The world looks different from a Flagship.

Below you is a graphic panorama of the vulnerability of everything to air attack. It makes evident why mastery of the air is indispensable to victory upon the earth.

Fortunately you are not looking at bombed cities, but at busy ones. Perhaps, like others, you are making your first trip by air, in order to expedite your war work.

Many tell us that the new mental and physical perspectives stimulate their thinking. Whole communities and their relationship to other markets are

visualized as upon an animated sales map! The history of surface transportation is dramatized. You see the necessity to follow the circuitous streams and old game trails on the ground, while in the air your Flagship beelines above all surface handicaps!

Time is being gained. As air travel shortens miles it automatically creates extra hours!

Distances no longer impede. Boundaries lose their old hindrance!

All places are accessible, because all of them are upon the one and only Main Street of omnipresent air!

Such thoughts open new vistas of opportunities. Inevitably air transportation will more deeply affect our domestic, business, national and international lives, in less time and in a wider radius, than any other form of transportation ever has.

Only a comparative few invented and built the motor car. It was the many, in all walks of life, who thought of ways to utilize the automobile that made us a motorized nation. The same formula applies to air transportation. We provide the service, but it is our passengers who are discovering the many ways to benefit from it.

ROUTE OF THE FLAGSHIPS UNITING CANADA, U. S. A. AND MEXICO

AMERICAN AIRLINES Inc.

International Air Transport Authority Proposed in Britain

A PROPOSAL FOR CREATION of an international air transport authority which would be responsible to "any United Nations security organization that might possibly be established" was the chief development at the British Empire air conference held in London Oct. 11-13, according to a report made to the House of Lords last fortnight by Lord Beaverbrook, Lord Privy Seal, who is in charge of coordination of civil air transportation for Britain.

Lord Beaverbrook said unanimous agreement had been reached on all problems at the conference and if the dominion governments approve the proposals the British Empire will be ready to go forward at once with an international air conference, presumably to be held in Washington.

A notable provision in the London talks was that an international authority would have no control over air routes linking countries under the same flag—especially significant to the widespread British dominions and commonwealths. This was outlined in the joint air transport committee report of the British Chambers of Commerce, the Federation of British Industries and the London Chamber of Commerce.

While stressing the need for an international air licensing authority "vested with very considerable powers" the report said, "air routes linking countries under the same flag should be excluded from their international arrangement, for there exists a clear right for all territories under one flag to link themselves together by air without let or hindrance by other powers."

Lord Beaverbrook on Oct. 20 told the House of Lords that international discussions must wait on the United States, but particularly upon Russia. "Russia is engaged in the battlefield and there may be on that account some delay," he said. "But we are ready. However, you won't be surprised when I say that from planning to doing is a long leap, and a very long leap."

Lord Beaverbrook said various estimates about the number of British planes to be engaged in postwar civil aviation had ranged from 1,000 to 15,000—that his own estimate was about 2,000. He pointed out that the U. S. was the foremost country in civil aviation, but had only 500 planes engaged in that work before the war.

As to Canada, he said that Canadian civil aviation would double every year if the Dominion Government had the necessary equipment.

Asking Beaverbrook to report to the House of Lords, Lord Londonderry, former Air Secretary, reiterated his desire for establishment of a government department that would handle civil aviation, entirely separate from the Air Ministry which deals with war time aviation.

"I am alarmed," Lord Londonderry said, "that the government—so anxious not to tread on people's toes—is not saying that it attaches that importance to private enterprise which the vast majority of the people of this country do attach to it and which is one of the prime moving factors in the United States."

Pointing out that the U. S. has had an opportunity to build aircraft which can be used in postwar aviation, Lord Londonderry said many of the smaller countries of the world, after the war, would rely on American aircraft for the continuance of their aviation. "We will require American cooperation," he said, "and I am optimistic enough to believe that we will get it."

Lord Barbazon forecast that the world's great air routes would be between the U. S. and Europe and that Goose Bay and Gander Bay bases in Newfoundland would be of maximum importance, warning that the British government should insure that they are kept in Newfoundland's hands and not parted with.

Lord Rothmere deprecated any suggestion that there might be difficulty between Britain and the U. S. over civil aviation. He said there were not any technical difficulties between aviation experts of the two countries, and that it was only in conversations between politicians that difficulties arose.

Among those attending the Empire Air talks, presided over by Lord Beaverbrook, were: Vincent Massey, Canadian high commissioner in London; C. D. Howe, Canadian minister of munitions; H. U. Symington, president Canadian Air Lines; J. R. Baldwin, Canadian minister for external affairs; Col. Deney's Reitz, Sir Pierre van Rynveld and John Martin from South Africa; Stanley M. Brice and Air Marshall Richard Williams, chief of Australian Air Staff at Washington, from Australia; W. J. Jordan, R. M. Campbell and Air Commodore A. deT. Nevil of the Royal New Zealand Air Force, from New Zealand; Sir Samuel Runganadham, Sir Frederick Tymms, director general of civil aviation, and H. A. F. Rumbold of India.

'Queen Mary of the Skies' Planned by Great Britain

Great Britain plans to build a "Queen Mary of the Skies," a giant airliner weighing 130 tons, without passengers, and powered by special motors totaling 20,000 hp, according to *London Callina*, publication of the British Broadcasting Corp. The project would be a "spare time" job of the Bristol Aeroplane Co., which builds the Blenheim, Beaufort, and Beaufighter, the magazine says.

"The new machine will not be just a blow-up version of the usual airplane shape. It will be revolutionary in many ways—in structure, motive power, and even shape," the article continues.

Leslie G. Frise, Bristol's chief aircraft engineer, is said to have the plans virtually completed. They provide for facilities for 150 passengers, a cruising speed of about 250 mph, and provision for stratosphere flying.

The British ministry of aircraft production, which has passed the initial plans and specifications, has issued instructions for the building to go ahead provided it does not interfere with war production, the magazine reports.

Postwar Whimsy

A good-natured thrust at Prime Minister Mackenzie King's views on postwar aviation was made recently by Burton Lewis, editor of *Canadian Aviation*.

Said the Prime Minister: "The government is leaving issues open so that Canada may be able to support in international negotiations, when they take place, whatever policy appears best at the time."

Editor Lewis said that under that policy aviation will enter the peace in a situation suggested by an old bit of whimsy:

"The centipede was happy,
quite,
Until the frog in fun
Asked which leg comes after
which?
Which raised his mind to
such a pitch
He lay exhausted in the
ditch
Considering how to run."

Navy Creates Aero Section In Industrial Incentive Dept.

The Navy has created a new aeronautics section in its Industrial Incentive Division, headed by Lt. (j.g.) M. R. Merrifield, former newspaperman and public relations counsel. The new section will work with labor, management, and War Production Drive committees to impress management and workers with the importance to the Navy of their work.

"Experience of this Division has proved conclusively that when workers and management have a better understanding of their importance to, and role in, the war effort, speed and quality of production is stepped up," said Rear Admiral C. E. Woodward, chief of the division.

Regular media of the division and of the Bureau of Aeronautics will be employed to tell workers about the performance and activities of naval aircraft and the integral part production plays in each naval aviation engagement. This will be accomplished through distribution of pictures and releases to employ publications, information booklets, rallies attended by combat veterans, combat reports, incentive films, news broadcasts in war plants—all designed to bring the war closer to the work bench, it is planned.

Planes for Australia

A "substantial number" of American planes, over and above those already allocated to the southwest Pacific during 1943-44, also a number of British Spitfires, soon will be assigned to the Royal Australian Air Force, Herbert V. Evatt, foreign minister of Australia, told the Australian house of representatives last fortnight.

RCAF Wins Priority

The Royal Canadian Air Force has won priority over the Army in recruiting manpower in order to fill the need for more aircrew, Canadian Air Minister C. G. Power disclosed in a speech at Windsor, Ont., last fortnight. Canadian industry is being combed for aircrew prospects, Power said.



GROUNDWORK

Remember the plane you made from copybook paper and sent sailing up the aisle—right on teacher's desk . . . and how surprised you were to discover the supporting power of the invisible air around you? A little paper plane has been "first flight" experience for many of us—our initial introduction to a science destined

to serve mankind and make neighbors of all the world's people.

With the war's end, this high ideal of aviation will be revealed. *Aviation will belong to everybody.* Even today, in war-busy aircraft plants, the plane

you will fly tomorrow is taking form. A lot is known about its design, a great deal about its flying simplicity. Its economy of operation and moderate price is already taken for granted. Fleetwings is anxious to get that plane to you. That's one of the many reasons why Fleetwings is working so hard for victory.

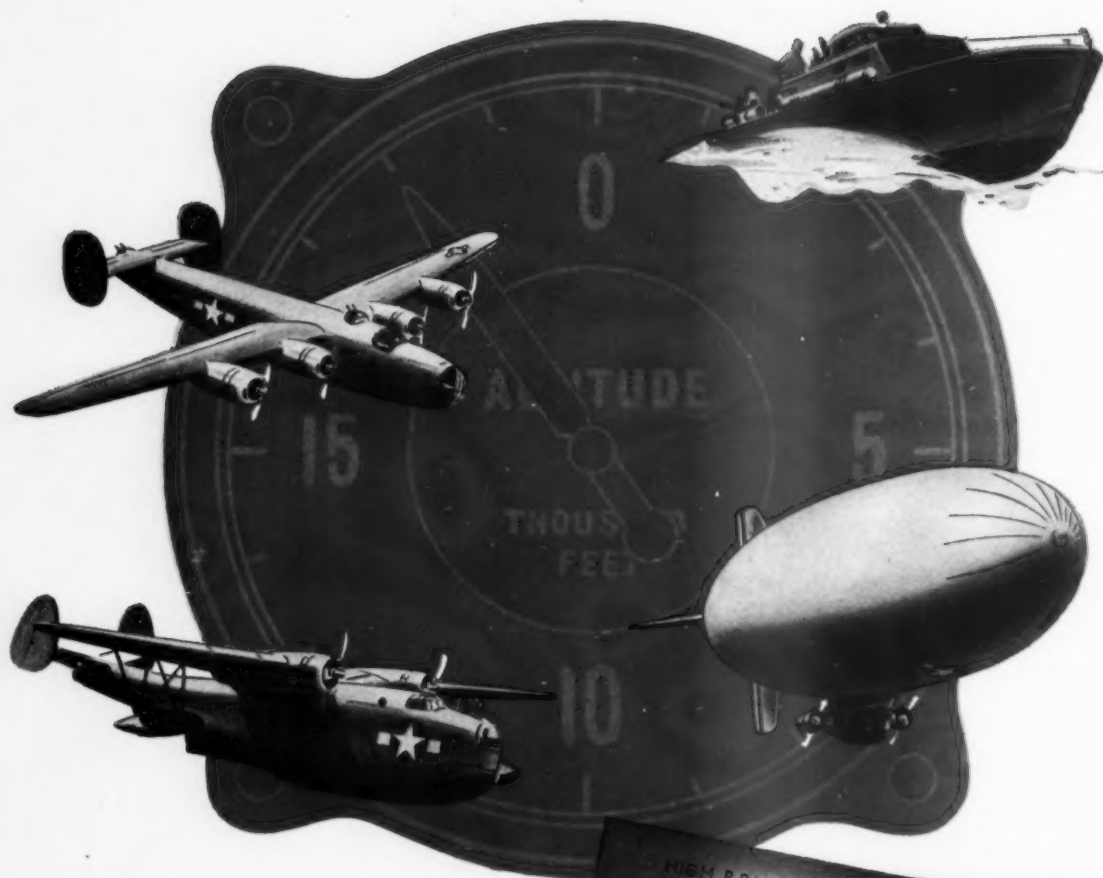


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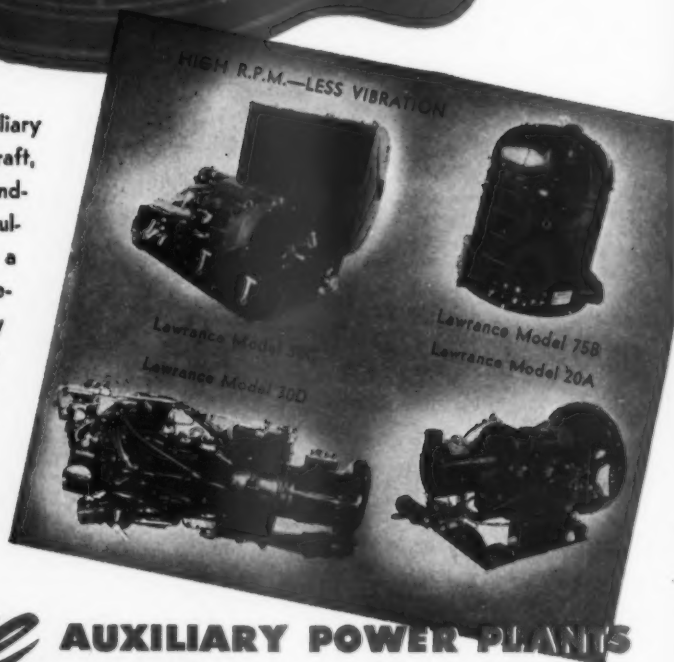


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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of American Aviation published 1st and 15th each month at Washington, D. C. and Harrisburg, Pennsylvania for October 1, 1943. State of Pennsylvania } ss.
County of Dauphin }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Thomas E. Lindsey, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the American Aviation and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Wayne W. Parrish, Washington, D. C. Editor, Wayne W. Parrish, Washington, D. C. Managing Editor, Eric Bramley, Washington, D. C.

Business Manager, Thomas E. Lindsey, Washington, D. C.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

American Aviation Associates, Inc., Washington, D. C.

Wayne W. Parrish, President, Washington, D. C. Col. Albert H. Stackpole, Vice-President, Harrisburg, Pa.

Brig. Gen. Edw. J. Stackpole, Jr., Sec'y-Treas., Harrisburg, Penna.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is not required. (This information is required from daily publications only.)

Thomas E. Lindsey,
Business Manager.

Sworn to and subscribed before me this 29th day of September, 1943.

J. Russell Sheffer.

My commission expires March 9, 1947.

Runway Construction Record

Construction men of the Royal Canadian Air Force recently laid a steel-mat aircraft runway on a remote island beach off Northern British Columbia in 13 days—three days ahead of schedule.

One-Man Helicopter Attracts Army, Navy Experts in Capital

A 1000-pound one-man helicopter, featuring simplified and instantly responsive control, was demonstrated last fortnight at Washington National Airport where it attracted the interest of both Army and Navy officials. It was developed by Frank N. Piasecki of Philadelphia, one of the "pioneers" in the rotary wing field.

Product of the P-V Engineering Forum, Inc., Ridge Ave. at Fairthorne St., Philadelphia, of which Elliott Daland, also a rotary wing engineer of long standing, is chief engineer, the craft was described as the forerunner of much larger models.

Daland said P-V has a helicopter with a payload of over one ton (8 to 10 passengers plus baggage) and a range of about 400 miles, on the boards and ready for production. It will travel at 123 mph, he said.

Since the unit has possibilities for military rescue work, liaison, invasion, anti-submarine warfare and other military activities, the War Production Board granted special priority on materials for completion of the model now being flown. The Navy, it was reported, is especially interested in the rotor characteristics of this craft.

Styled by Harry S. Pack of Pennsylvania Central Airlines, which provided hangar space and facilities for the Washington demonstrations, it is a finished vehicle. Designated as the PV-2, Piasecki said it represented the ambition of the designers "to make the smallest, simplest and most practical helicopter yet built, but at the same time to develop in it the most advanced and promising methods of helicopter control and refined detail design."

The three-blade rotor has a 25-foot diameter with a top speed of approximately 350 mph. The machine utilizes in general the torque reaction method developed by Von Baumhauer—a main

Baxter Named

Rex B. Baxter, secretary of the Amarillo, Tex. Chamber of Commerce, has been elected national councillor for Texas in the National Aeronautic Association.

rotor with a small auxiliary one-fifth the diameter of the main rotor. The pitch of the auxiliary rotor is varied by "rudder pedals" for directional control. With a gross weight of 1000 pounds including the pilot plus two hours' fuel, it will develop 95 mph. No take-off run is necessary. It is powered with a 90 hp Franklin 4-cylinder, air-cooled engine and cooled by an engine driven fan. The engine, located directly beneath the rotor center, is mounted vertically and has a reduction gearing between it and the rotor. In case of engine failure, an overrunning clutch is provided which allows the rotor to continue turning, free-wheeling, and the craft is brought to a landing as an autogiro.

Piasecki said the major contribution of the machine to the rotary aircraft field is "its remarkable new control." He claimed the time period between the motion of the stick by the pilot and the resultant motion of the machine is very much shorter than previous control systems.

Piasecki test flew and learned to fly his helicopter simultaneously. He previously had had only 14 hours time in a Cub.

Piasecki previously was associated with the Kellett Autogiro Co., Platt-LePage Aircraft Co., and the Edward G. Budd Manufacturing Co. in the capacities of mechanic, designer and aerodynamicist. He is president of the P-V firm.

Daland was with the Standard Aircraft Co. was partner-owner of the Huff-Daland Co. who built crop dusting airplanes in the early twenties, and was design engineer of the Keystone Aircraft Co. He later joined Kellett and as chief engineer of Pennsylvania Aircraft Syndicate developed the first rigid rotor gyroplane built in this country, claimed to have the first successful rotor feathering control.



Piasecki's Helicopter

Truman Criticizes Labor Utilization at North American

(See editorial, page 9)

While praising the contribution of North American Aviation Co. in developing and producing the Mustang fighter and Mitchell bomber, Sen. Harry S. Truman, chairman of the Senate committee investigating the war effort, last fortnight criticized the labor utilization record of the company's Dallas plant.

At the same time he said that Paul V. McNutt, chairman of the War Manpower Commission, would be asked to explain "his methods of dealing with the manpower problem and the basis for his decisions with respect to Dallas and the North American Aviation plant."

With emphasis on this point, Sen. Truman scheduled a public hearing to begin Oct. 28 with McNutt as the first witness. The senator issued the following statement regarding North American:

"At the request of Sen. Tom Connally and a number of the leading citizens of Dallas, Tex., Sen. Mon C. Wallgren (D. Wash.), chairman of the subcommittee on aircraft, and Sen. Homer Ferguson, (R. Mich.) a member of the subcommittee on aircraft, investigated charges that the North American Plant at Dallas was not operating efficiently and was not utilizing those already employed by it. This was a most serious charge.

"The subcommittee of the Truman Committee heard approximately 250 witnesses in private hearings and turned over the record to Mr. Charles E. Wilson of the War Production Board.

Wilson to Study

"Mr. Wilson has informed the Truman Committee that in his opinion the Dallas plant can and must be operated more efficiently and that he will go to Dallas and study the production situation thoroughly—introducing promptly such remedial action as is necessary to better utilize labor and achieve greater production efficiency.

"It is most important that every one now employed at the North American Dallas plant remain at work and cooperate with the management to the utmost in carrying out Mr. Wilson's suggestions. For the time being, there may not be sufficient work for all of them, but Mr. Wilson is going to try to institute changes which will provide work. His efforts will be hampered if large numbers of employees quit.

"The Truman Committee expects the War Department to cooperate fully with Mr. Wilson and to take any official action necessary to carry out the suggestions which he will make. The Truman Committee will check to make certain that progress along these lines is made.

"The North American Aviation Co. has made a great contribution to the war effort in developing and producing the Mustang fighter and the Mitchell bomber, two of our finest planes. The North American plant at Dallas is only one of a number of plants in the aircraft industry that is not producing what we are entitled to expect. We cannot permit manpower to be wasted. Hoarding of manpower must stop.

Anti-Climax Dept.

Editors of aviation publications in the east were bowled over by the generosity of an aircraft company 2,000 miles away from the headquarters of the publications. A wire announcing dedication of the plant was received with the following lure: "You and staff are cordially invited to be our guests. Bus transportation to plant from X—Hotel." Publications next expect a wire from the President of Ecuador reading, "Please come and see us. Free taxi ride from airport to hotel."

"The Truman Committee a year ago reported the imperative necessity of utilizing manpower efficiently and pointed out that the manpower requirements of the war effort could not be met unless wasteful methods were eliminated. Today we are at the bottom of the manpower barrel. The situation in Dallas illustrates the extent to which manpower is still being wasted.

"The War Manpower Commission has sought to deal with this condition by declaring that Dallas is a critical labor area. This was done because of the supposed additional future labor needs of the North American plant. That action does not increase the labor supply. It only prevents labor from being used for other purposes, however necessary, until the requests of the North American plant have been met. The records of the War Manpower Commission show that 87% of the total demand for labor during the four months after August was for the North American plant, and that the supply of labor would be adequate except for the demands in the North American plant.

"Mr. Wilson has informed the Committee that in his opinion the North American plant at Dallas cannot usefully employ more men, except for replacements, until it has increased the efficiency of its operations. The Truman Committee has attempted to inform Mr. Paul V. McNutt, Chairman of the War Manpower Commission, of the results of its investigation at Dallas and has told him of Mr. Wilson's position. Mr. McNutt will be asked to explain his methods of dealing with the manpower problem and the basis for his decisions with respect to Dallas and the North American Aviation plant."

U. S. Plans Super Carriers

Three 45,000-ton super-aircraft carriers, capable of handling multi-engined planes even larger than those which bombed Tokyo, are planned by the Navy, Secretary Knox announced Oct. 22. Construction on two of them will be started immediately. The third will be started early next year, the secretary said. He added that the new craft will be built because of the steady growth in the size of planes.

Aldrich Named

Robert Aldrich, until recently director of airports and airways for American Airlines, Inc., has been appointed director of the Metropolitan Airport Commission in charge of building a large airport for Minneapolis and St. Paul, Minn., in accordance with state legislative action of last spring.

Manpower Controls to Be Applied in Akron, Detroit and Hartford

Plans are being crystalized for rigid manpower controls, similar to those in effect on the West Coast, to be applied in the critical labor areas of Detroit, Akron and Hartford. Wade Childress, WPB Deputy Vice Chairman for Area Production Urgency Committees is visiting each city, advising local leaders on the establishment of regulations and committees.

The Detroit Management-Labor Committee met in Washington a week ago to formulate a manpower priorities program with War Manpower Commission officials. Details of the plan indicate it will be a modification of the one established by the Office of War Mobilization for the West Coast.

The Washington meeting, called by WMC's deputy chairman, Lawrence A. Appleby, at the request of Robert C. Goodwin, regional director, was followed by a meeting in Detroit on Oct. 27. They were confronted by the same basic problems as the West Coast: Balancing production demands with manpower supplies; elimination of unnecessary turnover and absenteeism, effective utilization of manpower; getting workers to jobs for which they are best suited through controlled referral and effective labor priorities systems; mobilization of the communities full labor reserve through community-sponsored recruitment drives; and development of adequate community facilities, such as transportation, housing and child care.

Committee Formed

An informal Production Urgency Committee has already been established. Headed by D. J. Hutchins, Detroit regional director for WPB, it is composed of M. A. Clark, Detroit director of WMC; Capt. N. C. Gillette, Navy; Col. N. D. Atkins, Detroit Army Ordnance District; Lt. Col. L. S. Gordon, Army and Navy Air Forces; E. M. Wilcox, Chicago office of Maritime Commission.

"The program we have laid down," Childress said, "is similar to that which we have embarked upon in other areas with strong indications of success. We think it can be helpful in assisting Detroit to turn out more goods more efficiently. The task of providing a satisfactory answer to this problem is almost entirely a local one. We look to industry and to this committee to provide the solution without having to refer to Washington." He said every effort would be made not to disrupt existing production by cancelling or shifting contracts.

Under the plan, as in Buffalo, only male workers will be controlled by the referral regulation. The program, which was slated to begin Oct. 15, has been postponed for a month until a more accurate appraisal has been made of labor requirements.

The Hartford plan, informed sources said, was necessitated by acute labor shortages at four aircraft bearings plants in the area. It is understood these plants will be assigned top priorities on the Production Urgency and Manpower Priorities lists.



Back the Attack—With War Bonds

Ten years after

THINK BACK, if you will, to 1933! That was the year in which the Century of Progress Exposition opened in Chicago.

And it was also the year the Boeing 247's were introduced by United Air Lines — revolutionizing all former ideas of air transportation!

Commercial ships up to that time had been principally biplanes or high-wing monoplanes which chugged along at a modest 115 miles an hour.

The Boeing 247 changed all that. First all-metal, low-wing, 3-mile-a-minute transport, it reduced the fastest previous coast-to-coast time by *one-third*. In the

recent words of an airline executive, "it made the greatest single advance in airline operating speed of any airplane before or after." Even now, practically every modern airliner is an outgrowth of this original Boeing 247 design.

That's only the first part of the story.

Today, ten years after, when most planes of that era have vanished from the skies, twenty-seven sturdy Boeing 247's are doing heavy duty for the Army Air Transport Command. And many others are in service elsewhere in the world. One of these ships has flown some *four million miles*—and is still going strong!

The combined mileages of the Boeing 247's still in use would mount into astronomical figures.

Obviously, planes with such a record must be well designed and well constructed. The same research, design, engineering and manufacturing skills are responsible for the famous Stratoliners,* the transoceanic Clippers, the Kaydet PT's (Primary Trainers), and those great battleships of the skies, the Boeing Flying Fortresses.*

Tomorrow as today, you can be sure of any product . . . if it's "Built by Boeing" it's bound to be good.

DESIGNERS OF THE FLYING FORTRESS • THE STRATOLINER • PAN AMERICAN CLIPPERS

*THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BOEING TRADE-MARKS

BOEING

Personal Plane Manufacturers Propose CAA Rule Modifications

PERSONAL AIRPLANE MANUFACTURERS have taken the initiative in proposing a series of simplifications of Civil Aeronautics Administration regulations relating to their field, and if time permits may attempt to have language inserted in the Lea Bill now before Congress instructing the CAA to make such modifications.

A tentative list of the suggested limitations has been sent out to the manufacturers over the signature of Don Flower, sales manager of Cessna Aircraft Co., one of the prime movers in organizing the Personal Plane Committee of the Aeronautical Chamber of Commerce. Each manufacturer has been asked for recommendations, and the final compilation which is being made by Joseph T. Geuting, Jr., vice president of General Aircraft Corp., and chairman of the Committee, will be turned over to the Chamber's Legislative Committee for action.

This survey of sentiment ties in with the views expressed by one segment of the industry that the Lea Bill does not go far enough in "protecting" and encouraging private flying.

Four major proposals are outlined:

1. The CAA should recognize that flying of personal airplanes (defined as non-military and non-scheduled aircraft) should operate under different standards than common carriers, and should be encouraged through a minimum of restrictive regulations.

2. The CAA should recognize the necessity for coordination of Federal rules and regulations with those of the 48 states,

and should take the lead in establishing a national policy for personal flying, approved by all states and administered jointly by both state and Federal governments.

3. The CAA should, at the earliest possible moment, suggest a national airport and navigation aid system for ratification by the states, clearing the way for the Federal government to participate in this national project much as in the fashion of the U. S. highway system. Provision of Federal aid should help greatly in getting the program approved by the states, it is pointed out.

4. No flight training should be done by CAA or any government agency with the exception of the military services in training their own personnel.

The No. 1 recommendation designed to give encouragement to the private flying section of the industry by providing special facilities and information required for its expansion, is broken down into four specific points:

Airworthiness Requirements: "Airworthiness requirements shall be the responsibility of the manufacturer. The CAA shall, by investigation, certify the competency of the manufacturer who will in turn then accept the responsibility of airworthiness of the aircraft they build or maintain. The CAA, for safety in maintenance, shall require periodic inspection and approval at reasonable intervals by certified maintenance agencies."

Pilot License Requirements: Physical license requirements for pilots not operating for hire shall be those now in effect

Predicts End of Nazi Industry

Systematic destruction of German industries will wreck the Nazi's ability to make war by the spring of 1944, Brig. Gen. Curtis E. Lemay, commander of an American heavy bombardment division, said recently in London.

"Winter weather will not hamper our efforts," he said. "Replacement of airplanes is the primary factor, and if the flow to this (European) theatre continues, as it will, German industry will be destroyed by spring."

under the Delaware auto drivers' license law. Physical deficiencies should not in themselves bar issuance of a private license, but tests of competency should be the guide.

CAA should examine and license instructors who in turn will be responsible for approval of all first solo flights by students and who will examine students to reasonable standards of flight proficiency. No written tests will be required, but by verbal tests the instructor will ascertain whether the student has working knowledge of contact flight traffic rules before solo flight and before issuing license. Private pilots with over 200 solo flying hours may give dual instruction not for hire, and commercial pilots may give dual instruction for hire but neither may approve a student for solo flight.

Traffic Regulations: CAA should bear in mind both contact and instrument flight conditions. "Air traffic regulations governing flight under contact weather conditions should be simple and completely stated and should be based on procedures established by both highway and marine practice where all craft regardless of size have generally similar rights and restrictions."

Grievance Procedure: Regional boards of equity should be set up as desired to handle difficulties which arise in administration of CAA regulations and competency of CAA personnel. It is proposed that each board be made up of three men designated by CAA, three approved by a majority of the certified maintenance agencies within the region governed by the board, and one additional expert satisfactory to the three representatives of each group.

Chilean Air Force Officers on U. S. Tour



One of the stops made by the group of Chilean Air Force officers recently touring United States military aviation bases and war production plants was at Republic Aviation Corp., Farmingdale, N. Y., where the P-47 Thunderbolt is produced. Shown left to right are: Col. Douglas Johnston, Lt. Col. Joseph Edgerton, Major Javier Underrago, Don Parker, director of military contracts at Republic Aviation; Col. Edison Diaz, Col. Raul N. Gonzalez, Col. T. A. Murphy, Brig. Gen. Oscar Herreros, and Lt. Gen. Manuel Tovarias, chief of the Chilean Air Force.

AAF 1943 Accident Rate Lower Than Anticipated

The rate of Army Air Forces accidents per 1,000 hours flown did not increase as anticipated in the fiscal year ended June 30, Robert A. Lovett, assistant Secretary of War for Air told the 32nd National Safety Congress in Chicago recently.

"The rate of accidents was reduced fractionally from .739 to .716 during this period—a rate lower than the average for the 10 peacetime years 1931-40," said Lovett. "More than three times more miles were flown during the year than in the whole preceding 20-year period."

The secretary revealed that as a result of the increased proportion of larger and heavier planes carrying more personnel, of faster military aircraft, and of newly trained pilots, the rate of fatal accidents was up fractionally from .077 in 1942 to 0.83 for the full fiscal year of 1943. The trend near the end of the year, however, was downward, and in the last quarter the rate was below that of 1942, he said.

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BINGHAMTON, NEW YORK

CAB, State Dept. Positions on Internat'l Aviation Clarified

Statement Refutes Comments on Status of Berle and CAB

A HIGHLY significant statement was issued Oct. 15 by the Civil Aeronautics Board and the State Dept. clarifying their respective interests "in the development of international air transportation services."

The statement went into great detail to explain the exact role played by each agency in the handling of applications for international air routes. It was obviously intended to refute comments made recently that the CAB is largely impotent in international matters and that Assistant Secretary of State A. A. Berle, Jr. is "out of the running."

Far from being out of the running, the Berle-Pogue team, advocating freedom of commercial transit and opportunities for many airlines to fly internationally, appears to be well in control. Successful in making itself heard at the White House, this team has played several ace cards over advocates of a joint or single airline.

The complete CAB-State Dept. announcement said:

"In order to eliminate any possible confusion in the minds of the aviation industry and the public generally, the Dept. of State and the CAB have felt it desirable to clarify their respective interests in the development of international air transportation services.

State Dept. Interested

"The Dept. of State has a primary interest in the subject from the standpoint of foreign policy and international relations, including the broad economic effects of aviation in foreign countries.

"The CAB is charged with the responsibility, within the framework and guided by the policies of applicable legislation, of developing policy with respect to the organization and functioning of civil air transportation. The Board is required by law to study all of the economic and other factors which go to make up a finding of convenience and necessity for specific routes. In addition, the Board must investigate the applicant or applicants to make a determination of fitness, willingness and ability. Findings of fact made pursuant to statutory authority in the technical fields of aviation operation, transportation economics and organization, determination of route and the like are matters for decision by the Board, though the Dept. of State may bring to the attention of the Board considerations and facts relating to foreign policy which may be relevant to the subject matter of any determination in respect of which the Department is consulted or may have an interest based on considerations of foreign relations.

"The policy of both the Dept. of State and the CAB is that of the closest collaboration in order that the Board may be fully apprized of the Department's views

on any international problems which might be involved in matters under consideration by that agency; and in order that the Dept. of State may be fully apprized of the views of the Board in respect of civil aviation problems as they may affect foreign relations.

"The facilities of the Dept. of State are freely available to the CAB for procuring from the Department or through its missions abroad such information as it may be able to secure for the use of the Board; the facilities of the CAB are freely available to the Dept. of State for procuring such engineering, technical or transportation data as may be of assistance to the Department in handling its problems.

Outlines Procedure

"With specific reference to the development of new international air services, it is believed desirable to outline for the benefit of interested parties the procedure being followed.

"Applications for certificates of public convenience and necessity, and amendments thereof, are filed with the CAB pursuant to Section 401 of the Civil Aeronautics Act of 1938, as amended. Thereafter the carrier need only prepare for the hearing before the Board, at which it will endeavor to prove that public convenience and necessity require the granting of its application.

"The Board forwards copies of such applications to the Dept. of State for information and such comment as it may wish to make to the Board. Questions of landing rights and other matters affecting foreign policy will be dealt with through close consultation between the Dept. of State and the CAB. The Dept. of State, as provided in Section 802 of the Civil Aeronautics Act of 1938, as amended, will conduct with foreign governments such negotiations for new or additional rights as may be determined to be desirable as a result of collaboration between the Dept. of State and the CAB.

"Foreign air carriers who wish to apply to the CAB under Section 402 of the Civil Aeronautics Act of 1938, as amended, for permits to operate into U. S. territory, should request their governments to forward such applications through diplomatic channels. When these applications are received in the Dept. of State they will be immediately transmitted to the CAB. Thereafter, pending a decision on the application, technical or other details are handled directly with the Board, and the applicant prosecutes his application directly before the Board."

Letter Made Public

As a further clarification of existing procedure, there is also made public the following letter, dated Sept. 25, 1943, from Assistant Secretary of State Adolf A. Berle, Jr., to Mr. John W. Cross, representing the Alaska Star Airlines:

"The Department refers to your recent oral inquiry regarding the status of landing rights for American commercial aircraft which may be obtained through negotiation by the Government of the U. S. Specifically, you ask whether, when such landing rights may be secured, your com-

'Insurance Ignorance'

"Ninety-five per cent of the airline patrons are ignorant of the fact that 'trip insurance' covers more than just flight," Chicago and Southern's house organ, *Sky Steps*, points out. A trip insurance contract provides that the passenger is covered "in flight or while en route in or on a land conveyance provided by, or under control of, said scheduled airline between the airport of departure or arrival, and the city or town such airport serves, including such injury resulting from an accident sustained at either of said airports while in due course of transit," the publication adds.

Many will have an opportunity to be heard on the question of whether it may be permitted to exercise or share in such commercial landing rights.

"In reply, you are advised that it is the policy of the Dept. of State, when it secures commercial landing rights in foreign countries for American aircrafts to secure such rights in general terms so that they may be assigned to or allocated among American carriers in accordance with the determination of the competent authorities of this Government under the provisions of law. The competent authority for that purpose is the CAB which has authority under its certificating power to determine, with the approval of the President, what American carrier or carriers may engage in international civil aviation and what route or routes they may be permitted to fly. It is the policy of the Dept. of State so far as practicable when it secures commercial landing rights in foreign countries to do so in a manner which shall make them subject to the authority of the CAB. Should special circumstances exist making this impossible, it is the policy of the Department to act in consultation with the CAB."

Automotive Industry Production

The automotive industry has produced more than four billion dollars worth of airplanes, engines, and aero equipment during the past three years, says the third anniversary review of the Automotive Council for War Production. Of the \$4,000,000,000 in total deliveries, slightly more than \$1,000,000,000 was completed during the first two years of the production program and the remaining \$3,000,000,000 was delivered during the past 12 months.

'A Day With a Cadet'

Southern Aviation Training School, Decatur, Ala., is cooperating with the Birmingham high schools' pre-flight aeronautics classes to stimulate more interest in aviation among youth. A test will be given next April to the city's aviation students by Southern Airways and the highest student of each high school will be awarded "A Day with a Cadet" at the Army Primary Training School and the AAF Basic Flying School in Courtland.

Knudsen Talks on Aviation

"The future of aviation lies in use of transport planes to cover long distances over water and over inaccessible areas throughout the world," said Lt. Gen. William S. Knudsen, war production chief for the War Department, during a recent visit to the Consolidated Vultee plant at Fort Worth, Tex.

Beechcrafts at work



WHEN THE RAIN ROARS ON YOUR ROOF — and you are snug and warm — remember this picture of an AT-11 Beechcraft ready to take off as soon as the bombardier and instructor climb aboard with the bombsight. Our Army and Navy airmen have to fight in all sorts of weather, and therefore have to take training instruction in the same assorted varieties of weather — by day and by night. . . . The safe return of these airmen from the stormy night skies depends largely on the skill and care exercised by the men and women who designed and built this Beechcraft, and the thousands of its companion Beechcrafts being used by our armed services in training bombardiers, pilots, and navigators. Because all Beechcrafters realize and accept this responsibility, these military Beechcrafts, like their commercial prototypes, have earned under the most rugged conditions an outstanding reputation for dependability and efficiency.



OFFICIAL PHOTOGRAPH U. S. ARMY AIR FORCES

Beech Aircraft



CORPORATION

BEECHCRAFTS ARE DOING THEIR PART

WICHITA, KANSAS, U. S. A.

U. S., Britain To Lead in Foreign Air Travel—Warner

Competition Need Not Mean Conflict, CAB Official Says

THE LEADERS in the development of postwar international air transportation are likely to be the United States and Great Britain, with other countries busily engaged in developing their own internal air routes, Edward P. Warner, vice chairman of the Civil Aeronautics Board, said in an article in the October issue of *Foreign Affairs*.

While competition will be desirable between the airlines of the U. S. and Britain, this competition need not lead to conflict between them, the CAB official said.

Explaining why the U. S. and Great Britain will be leaders, Warner pointed out that "Russia and China have great tasks ahead in building up air communica-

tions within their own vast territories. So do most of the British Dominions and the principal nations of South America. But while all these states will be conducting international operations to some extent, and sundry European states also, a very large proportion of the

world's long-range international airline operations will be carried on under the American or British flag."

When U. S. and British ambitions encounter one another in the air, "the result may be either direct competition or the invention of some device to avoid it. Competition might be avoided by an allocation of traffic or by an allocation of territory. The first alternative, which is the pool, has never been popular in Britain and certainly would not be in America. The idea of allocating territory, i. e., recognizing 'spheres of influence,' runs into difficulty along the borderlines of the proposed zones. It also runs up against the psychological difficulty that the peoples of both countries have been learning to think in global terms. They will not be patient, either in Britain or in the U. S., of proposals that they be fenced off from any part of the world.

"Competition may make conflict, but it need not do so. Competition between British and American airlines should be as keen, but at the same time as friendly and as cooperative in matters where cooperation is mutually advantageous, as the competition between any two of the airlines within the U. S. There will be no occasion for Britain and America to

parallel each other's routes throughout. But the writer believes that a substantial amount of competition would be healthful to trade and beneficial to the traveller, and further that it will cause less friction than the measures that might be devised to avoid it.

"Across the Atlantic, at any rate, parallel American and British services may be expected between New York and London. If the situation causes any more friction than arose out of the three parallel non-stop services maintained by American airlines between New York and Chicago before the war, it will be evidence of a quite needless inability of the British and American governments to cooperate in finding fair solutions for whatever problems of scheduling, rates or alleged unfair competitive methods may arise . . .

"If all dreams could be fulfilled, Britain and America would each like to carry the air traffic of the world. Since neither can expect to do the whole job, each must prepare to deal with the other as a friendly and cooperative competitor. The governments must not be content merely to make a rigid initial agreement. The departments concerned with civil aviation must remain in constant communication to make certain that the agreements are working properly and to expand them or liberalize them where necessary . . . The only agreement that can be genuinely satisfactory to either party in the long run will be one which will be genuinely satisfactory to both. It must leave no sting or sense of defeat to either. Both British and American air transport operations can be of benefit to both countries, and to all the rest of the world. Success in handling the air transport problem will make success easier in other fields. And any advantage that either country might seem to gain in placing political handicaps on the air transport opportunities of the other would prove to have been indeed a Pyrrhic victory."

Lists Alternatives

Before the war, Warner said, international services were established through two procedures—bilateral agreement or unilateral concession. "For the future," he stated, "the following new alternative procedures appear possible:

"1. Air transport might be operated internationally, either through a world monopoly, or through a number of companies representing groups of nations interested in particular areas.

"2. There might be general agreement on a body of principles defining in general terms the air transport privileges to be enjoyed by all countries. (They might go so far as to convey to every country the right to carry passengers and goods between any two points in the world; or the privileges conveyed might be much less extensive.)

"3. Air transport might be conducted by privately or governmentally-owned airlines, bearing national flags but operating subject to an international control and receiving from an international agency

Canadian-U. S. Pilots Organize

United States fliers who have served or are serving with the RCAF have formed an organization known as the Canadian-American Service Pilots' Association by means of a chain letter system. The association has 105 members to date.

the certificate that gave them the right to conduct international service.

"Alternatively, of course, bilateral bargaining might continue as in the past."

On internationalization, Warner said: "The British Government has taken no position, but seems likely at least to give the possibilities of internationalization serious and respectful study. Even those who dismiss it as impossible on a world-wide scale often hope that some consolidation of interests in Europe may avert the rival operation of 15 or 20 companies with the active backing of as many governments. In the U. S. the proposal has not aroused any such interest. Vice President Wallace has sponsored it, but without attracting much response. American operators and manufacturers of aircraft would certainly oppose it, as they would any scheme that was likely to bring air operations more directly into the hands of government, whether national or international."

Convention Needed

On his second point (general agreement on a body of principles), he asserted that "if we intend establishing any general principles defining a natural right to participate in air commerce we shall do this most easily as a part of a world convention on air navigation. After the war there will be a plain need for machinery to insure uniformity in aerial rules of the road and some other matters . . . Some specification as to the degree of freedom of transport operation that is to be generally conceded could be included . . .

"One general principle would establish the right of transport aircraft to make non-stop flights across the territory of foreign nations . . . A next step would be to extend the universally recognized right of non-stop passage to include stops of foreign aircraft for refueling . . . That much, at least, should be hoped for. No country ought to claim the right to bar the passage of aircraft handling only through traffic and therefore in no way affecting its own commerce. To do so, and to refuse to let them use available ground facilities and purchase supplies, would be an outrageous exploitation of geography for purely negative and destructive purposes. It would be particularly outrageous in view of the rapid contraction of the earth's surface through the development of aviation. That sort of obstruction by countries which occupied strategic positions along important intercontinental routes was the greatest barrier to the development of international air transport between 1920 and 1938. Its recurrence should be discouraged.

"If the decision were made to go still further, the next step might be a general agreement which allowed the aircraft of a member nation to discharge traffic which had originated in the metropolitan territory of that nation and to pick up traffic which would be delivered there . . . A

(Turn to page 49)

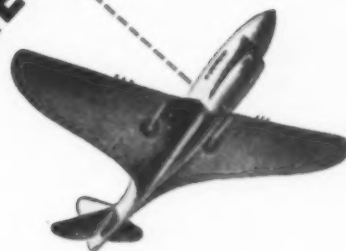


Warner

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Swiss Interested in Flying Intercontinental Routes

U. S. Lines Welcome in Switzerland, Says Henry E. Pillichody

By ERIC BRAMLEY

SWITZERLAND, whose airlines were among the first to fly in Europe, will be interested in conducting postwar intercontinental air operations to any country with which it has a substantial commercial connection, according to Henry E. Pillichody, former manager of Swissair, the company which, before the war, flew all Swiss international air routes.

Pillichody, who is visiting the U. S. as special representative of the Swiss National Office of Transportation, told *American Aviation* that Switzerland would welcome any number of U. S. airlines that might be certificated by the Civil Aeronautics Board. A reciprocal agreement would be sought with each line, but this would not necessarily mean that Swissair (or any Swiss company which might be formed for trans-ocean flying) would ask to operate schedules equal to the combined total of those flown by U. S. lines, he asserted.

The Swiss official also suggested the possibility of a "pooling" agreement with U. S. lines. Under this plan, which was used extensively by the Swiss before the war, all passenger and express revenues of the U. S. and Swiss airlines operating between the countries would be pooled and divided proportionately. For example, if three U. S. lines were operating, with only Swissair representing Switzerland, these revenues might be pooled and divided on a 3-1 basis.

Before the war, such a plan was in operation between the British and the Swiss. Although the Swiss were using DC-3s, with a larger carrying capacity than the British Lockheeds, the Swiss nevertheless divided the pooled revenues on a 50-50 basis for a considerable period of time. Later, the agreement was amended, the 50-50 division still applying to revenues up to a certain figure, with all over that figure being divided on a more equitable basis.

Pillichody emphasized that pooling was only a possibility—that American officials might suggest a better system with which the Swiss might be in complete accord.

He reiterated that there need not be a U. S. monopoly in operations to Switzerland, that the Swiss will welcome all properly certificated operators. There should not be "cutthroat competition," he said, adding that agreement would be sought on fares and schedules. Foreign companies, he warned, must meet Swiss aeronautical requirements (which are stringent) just as Swiss planes must meet U. S. operating specifications.

The Swiss National Office of Transportation, which Pillichody is represent-



American Aviation Photo
Pillichody

ing, is a private organization with an annual appropriation of about four million Swiss francs, one million of which is furnished by the government, the remainder by private commercial interests. The government, despite its large contribution, does not interfere in the organization's activities. Its purpose is to promote Swiss trade and commerce through publicity.

Pillichody may return to Swissair after the war, or if a company is formed for intercontinental air operations, may join that company. "Intercontinental" operations refer to those over the oceans, such as to the U. S.; "international" operations are those within Europe, he explained.

Pillichody, who piloted the first international Swiss airline flight on June 1, 1922 (Zurich-Nuremberg, in a four-passenger single-engine Junkers F-13), explained that Swissair, because of the war, now operates only between Zurich and Stuttgart, a 40-minute flight. Unlike most European airlines, Swissair is not owned or controlled by the Swiss government, although it receives a relatively small subsidy.

In 1938, the last peace year, the company flew 2 1/4 million miles, carried 70,000 passengers, 1,300,000 pounds of mail and 700,000 pounds of express. In that year it operated Zurich-London non-stop in three hours (the longest non-stop flight in Europe, and a trip which takes at least 18 hours by train and boat), Zurich-Berlin, Zurich-Paris, Zurich-Basel-Amsterdam, Zurich-Vienna and Geneva-Paris. A night mail plane also operated between Basel and Frankfurt.

Swissair was formed in 1931, representing an amalgamation of several companies. In 1932 it bought two Lockheed Orions, becoming the first airline to introduce high-speed planes in Europe, Pillichody said, adding that the company has always been very progressive in buying new and improved equipment. It

has operated Lockheed Orions, Clarks (10-place single-engine plane, only two of which were built in the U. S., both going to the Swiss), Fords, Condors, DC-2s and DC-3s, buying some of the first DC-3s built by Douglas. In the winter of 1938-39, it ran a "triple section" of DC-3s between Zurich and London, all 63 seats being sold for a period of six weeks. One-way fare was approximately \$36. Three sections, rather than three separate trips, were operated because the Swiss had rights for only one trip to Britain.

In addition to the pooling agreement with the British, Swissair also had one with the Germans, Pillichody explained. He added that all nations to which Swissair operated were welcome to fly schedules into Switzerland. Sweden was invited to start operations into Switzerland despite the fact that Swissair was not in a position to institute immediate service to Sweden.

In Switzerland, mail travels by the fastest method available, Pillichody said. A letter, carrying ordinary postage, addressed to Paris, went on the next schedule, whether it was plane or train.

In 1938, only 20% of Swissair's revenue was from mail, 55% coming from passengers and cargo, 10% from special non-scheduled flights and 15% from direct government subsidy.



Mrs. Allaire C. du Pont, Wilmington, Del., widow of Richard C. du Pont, has been elected a director of All American Aviation, Inc., the company founded by her husband. Mr. du Pont, who resigned as president of All American last April to become special assistant to the commanding general of the Army Air Forces in charge of the glider program, was killed in a glider accident at March Field, Cal., September 11.

Capt. Stan A. Palmer, member of the first Army P-40 fighter squadron sent to the defense of Guadalcanal and with more than 75 combat missions to his credit in the South Pacific war theatre, is engaged as a test pilot and assistant operations officer at the U. S. Army flight hangar adjacent to the main airport plant of Curtiss-Wright Corp., Buffalo, N. Y.

Robert J. Flynn, former football star at Holy Cross College, is now an instructor at the Lodwick School of Aeronautics, 60th Army Air Forces Flying Training Detachment.



Flynn

Palmer

A Day With a WASP

By BARBARA B. C. McNAMEE

FIFTY WOMEN AIRFORCE SERVICE PILOTS are today flying in a cooperative ground-air program at Camp Davis, N. C. An American Aviation reporter last week saw the results of the WASP's first three months of tracking and target-towing missions for Davis's anti-aircraft school.

"Our experiment has been a success," said Jacqueline Cochran, Director of Women Pilots.



Cochran

"We decided to try them out on one of the hardest jobs the Army offered. We knew that if they were successful they could perform any of a dozen other flying services for the Army, including instructing."

Success is proven by the Army's demand for 130 more WASP's at Camp Davis within the next two months. The girls will be picked from the graduating classes of the Women Pilot's School at Sweetwater, Tex. It was also revealed that 15 WASP's recently left Camp Davis for specialized training in the use of simulated planes as anti-aircraft targets. Miss Cochran indicated that three similar experiments in which WASP's are participating are now underway as the Army attempts to relieve more skilled pilots for combat duty replacing them with women.

The training curriculum for WASP's is

being expanded from six to about 7½ months with the last class scheduled to begin in July, 1944. In February final plans will probably be made determining the future need for and approximate total strength of the women's unit.

The girls at Camp Davis, wearing men's Army uniforms with WASP insignia, first learn tracking or flying a course which is followed by anti-aircraft students for practice in direction and range finding. L-4 and L-5 planes which the girls fly alone are used for this operation. Their transitional flying is done in A-24's and AT-11's with particular emphasis on blind flying since many of their target-towing missions take place at night.

Target-towing, the most difficult mission, is made in B-34's from which sleeve or screen targets are unreeled on a cable to about 3000 feet behind the plane. Advanced anti-aircraft students by actual fire with 90-millimeter guns attempt to bring down the target.

A B-34, manned by a pilot, a WASP co-pilot, flight engineer, tow-reel operator and radio operator towed a red wire screen 35 feet by 6 feet, the approximate size of a fuselage. As it came in sight about 5000 feet up, the anti-aircraft battery guns swung into position. Electrically operated by the battery commander, they followed the course of the screen or "flag" always aiming behind the plane. The command was given, guns fired twenty rounds and between the distant puffs of exploding shell, the dark flag was seen falling into the sea.

"As you can see," said Miss Cochran, "it is essential hard work and not a bit glamorous."

Joint Price Adjustment Board Established For Renegotiation Authority

Six Government agencies concerned with renegotiating war contracts have announced the formal establishment of a Joint Price Adjustment Board to exercise certain authorities now held by the individual agencies.

The Joint Board actually has been in limited operation for some time, but the announcement specifies the broad powers under which it will act. Member agencies are the War Department, Navy Department, Treasury Department, Maritime Commission, and the Reconstruction Finance Corporation for its subsidiaries.

The Secretary or head of each of the departments or agencies engaged in renegotiation of war contracts has delegated authority to the Joint Board as follows:

(a) To formulate and adopt statements of purposes, principles, policies and interpretations under the statute which shall be binding on the departments.

(b) To define, interpret and apply by joint regulation the exemption specified by statute relating to the product of a mine, oil or gas well or other mineral or natural deposit or timber.

(c) To exempt from some or all of the provisions of the statute, general classes or types of contracts, and to formulate standards for the exemption of such contracts.

(d) To determine whether any contractor shall be required to renegotiate for any fiscal period the contract price under some or all of his contracts subject to renegotiating under the statute.

(e) To assign any contractor to any department for determination whether excessive profits have been or are likely to be realized from some or all of its contracts subject to renegotiating under the statute.

(f) To prescribe by joint regulation, the form and details of financial statements contractors may file, and the form, time and manner of giving them notice to which they are entitled, in order to commence the running of the period of limitation after which its contracts cannot be renegotiated.

Joseph M. Dodge, chairman of the War Department Price Adjustment Board, is chairman of the Joint Board. In addition to Dodge, the board will be comprised of Kenneth H. Rockey, chairman of the Navy Price Adjustment Board, who will serve as vice-chairman; Thomas W. Woodward, chairman of the Maritime Commission Price Adjustment Board, who is also representing the War Shipping Administration; Capt. Harry C. Maul, Jr., chairman of the Treasury Department Price Adjustment Board; Charles T. Fisher, Jr., chairman of the RFC Price Adjustment Board, and Carman G. Blough, War Production Board representative.

Two Recent WLB Decisions Reveal How Board Operates

Two recent War Labor Board decisions on aircraft cases have been explained in opinions which give additional insight into the Board's operations. In one case Bell Aircraft plants in Buffalo and Niagara Falls were ordered to establish a new scale of wage rate; in the other, Wright Aeronautical Corp. at Patterson, N. J., was told to increase its starting rate to 65c.

The Wright case was viewed in the industry as a reversal of the Board's principle of raising wages only to the minimum going rate for the area (60 cents in the case of the New York area which includes New Jersey).

"The company has recently opened a plant at Woodridge, N. J.," the Board explained. "This new plant must be promptly and fully manned; at the same time accretions to the work force at Patterson are only slightly less urgent."

Pointing out the major conflict, the decision stated: "A hiring rate must be set which will attract crucially needed manpower without unstabilizing wage rates in other plants in the area. Hiring rates cannot be related to those necessary to supply replacements or, in other words, for maintaining a work force. They must enable hiring to create a new work-force for a new plant of primary importance at a time of great dearth of available manpower. In addition maximum output and productive efficiency have been hampered by unsatisfactory and uncooperative management-union relationship."

The Bell decision is in line with the Board's policy of replacing obsolete wage structures which no longer fit the needs of the industry's war-time operations. The Board directed the corporation to establish a starting rate of 65c an hour and to install a wage structure containing 10 labor grades with a minimum rate of 80c and a maximum of \$1.40.

This decision completes the wage stabilization of the airframe industry in the Buffalo area. "A job classification system based upon 10 labor grades is in line with airframe industry practice and has been shown to be practical because of the difficulty of making a more precise differentiation between various jobs than their grouping into 10 grades."

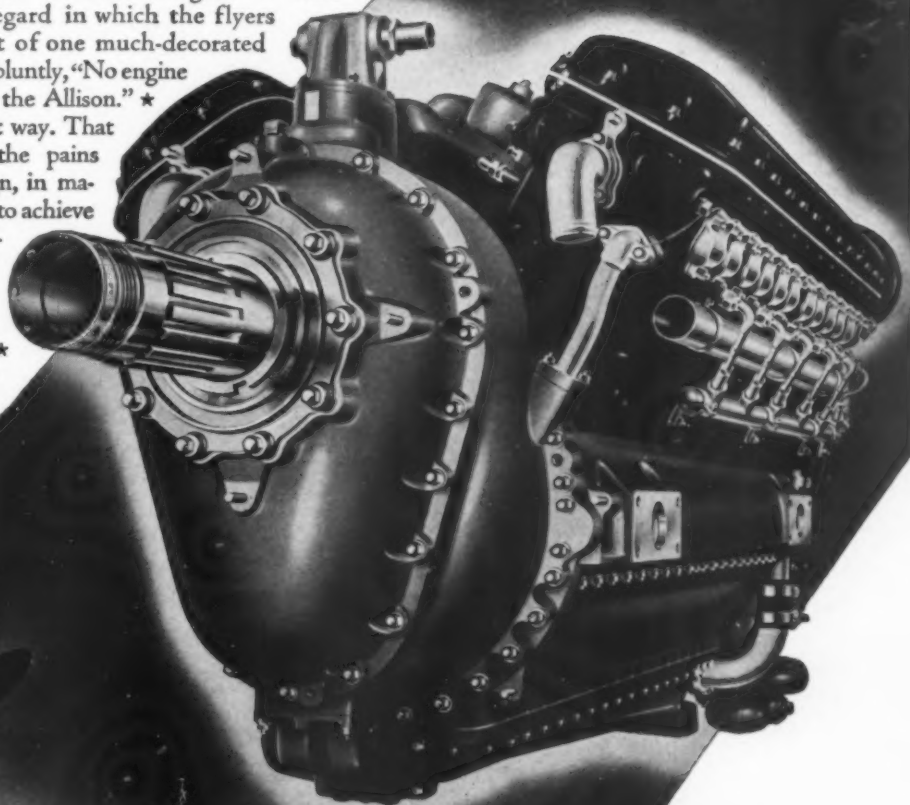
The Board considers the provisions of equitable minimum job rates one of the most significant aspects of the case. "These provisions insure that new employees will, in an orderly manner, secure the minimum job rates after an appropriate training period. Thus a primary defect of the previous system has been eliminated."

Sixth NASC Meeting Called

The sixth meeting of the National Aircraft Standards Committee will be held at the Lexington Hotel, New York City, Nov. 8 through 12. It will be the second meeting this year of the standards and materials engineers of the 31 airframe prime contractors of the United States, together with principal members of the Army-Navy Aeronautical Board, Aircraft Resources Control Office, and the various engineering societies at work on the national standards program.

THEY ALL GET TOGETHER ON THIS

American flyers in the Far East favor one type of fighter plane — the Russians pick another type — the British go for a third — and still a fourth is the special pet of scrappy American birdmen rolling up records around southern Europe and in the Aleutians. ★ All four of these American-built fighters have one thing in common—the Allison engine. ★ And typical of the high regard in which the flyers hold this engine is that of one much-decorated American pilot, who says bluntly, "No engine is more dependable than the Allison." ★ We're glad they feel that way. That is welcome reward for the pains Allison takes — in design, in materials, in workmanship — to achieve peak precision and super-fine quality. ★ It is General Motors' purpose to build the best aircraft engine in the world. ★ How well we succeed is a matter best reflected by actual combat results.



POWERED BY ALLISON

P-38—Lightning
P-39—Airacobra
P-40—Warhawk
A-36 and P-51A—Mustang

Every Sunday Afternoon
GENERAL MOTORS SYMPHONY OF THE AIR
NBC Network

BACK THE ATTACK—
WITH WAR BONDS

LIQUID-COOLED AIRCRAFT ENGINES

Allison

DIVISION OF



Committee on Personal Aircraft Organized by Aero Chamber

ORGANIZATION of the Personal Aircraft Standing Committee of the Aeronautical Chamber of Commerce, with Joseph T. Geuting, Jr., vice president of General Aircraft Corp., Astoria, L. I., N. Y., as its chairman, was announced this week. William A. Mara of the Stinson Division of Consolidated Vultee Aircraft Corp., Wayne, Mich., is vice chairman.

As a result of meetings among lightplane manufacturers and the September long-range planning conference of the aircraft industry held in Colorado Springs, this committee has emerged as one of the strongest units of the Aero Chamber and has an aggressive program in mind.

Other members of the standing committee are: Carl Squier, vice president, Lockheed Aircraft Corp., Burbank, Calif.; T. B. Woodbury, vice president, Culver Aircraft Corp., Wichita, Kan.; C. J. Bruckner, president, Waco Aircraft Co., Troy, O.; R. H. Depew, Jr., Fairchild Engine & Airplane Corp., Hagerstown, Md.; Don Flower, sales manager, Cessna Aircraft Co., Wichita; I. H. Taylor, eastern representative, Douglas Aircraft Co., Washington, D. C.; W. T. Piper, president, Piper Aircraft Corp., Lock Haven, Pa.; Carl Friedlander, president, Aeronca Aircraft Corp., Middletown, O.; J. C. Hart, president, Taylor Aviation Corp., Alliance, O.

Others listed by the Aero Chamber as associated or closely interested in the work

of the Personal Aircraft Committee include:

Charles Smith, Executive Assistant, Aeronca Aircraft Corp., Middletown, O.; C. F. B. Roth, General Sales Manager, Aircooled Motors Corp., Syracuse, N. Y.; Emery F. Johnson, Aircraft Accessories Corp., Washington, D. C.; George H. Cherry, General Representative, American Bosch Corp., Springfield, Mass.; Carl Wootten, Sales Manager, Beech Aircraft Corp., Wichita, Kan.; Washington Representative, Bell Aircraft Corp., Washington, D. C.; H. L. Thompson, Secretary, Bellanca Aircraft Corp., New Castle, Del.

L. D. Kiley, Bendix Products Division of Bendix Aviation Corp., South Bend, Ind.; Bob Kinkead, Assistant to James Murray, Boeing Aircraft Co., Washington, D. C.; E. W. Cleveland, Sales and Service, Cleveland Pneumatic Tool Co., Cleveland, O.; J. Farkas, General Manager, Commercial Division, Commonwealth Aircraft, Inc., Kansas City, Kan.; Dean C. Smith, Director, Transport Contracts Dept., Curtiss-Wright Corp., Aviation Div., Buffalo, N. Y.; Harvey L. Williams, Field Engineering Manager, Crown Fastener Division, Spool Cotton Co., New York City.

George B. Post, Vice President, Sales, Edo Aircraft Corp., College Point, N. Y.; Chad Calhoun, Project Manager, Fleetwings Div., Kaiser Cargo, Inc., Washington, D. C.; Paul Thomas, Vice President and Secretary, G & A Aircraft, Inc., Willow Grove, Pa.; Norman Nicholson, Globe Aircraft Corp., Fort Worth, Tex.; R. E. Davis, Assistant to Vice President, Goodyear Tire & Rubber Co., Akron, O.; H. R. Sluyter, Grand Rapids Industries, Grand Rapids, Mich.; Fred T. Gould, Washington Representative and Assistant to President, Guberson Diesel Engine Co., Washington, D. C.

Charles Hollerith, Vice President, Hayes Industries, Inc., Jackson, Mich.; Don Reagan, Sales Manager, Heath Co., Benton Harbor, Mich.; B. D. DeWeese, President, Howard Aircraft Corp., Chicago, Ill.; Don Smith, President, Interstate Aircraft & Engineering Co., Los Angeles, Cal.; C. J. Abbott, President, Jacobs Aircraft Engine Co., Pottstown, Pa.; L. C. Peskin, Products Engineer, Kellett Aircraft Corp., Upper Darby, Pa.; J. C. Collingwood, Jr., Contract Manager, Luscombe Airplane Corp., Trenton, N. J.; A. H. Meyers, President, Meyers Aircraft Co., Tecumseh, Mich.

A. Ogden Pierrot, McDonnell Aircraft Corp., Washington, D. C.; W. B. St. John, Sales Manager, Piper Aircraft Corp., Lock Haven, Pa.; Archie Laurie, Washington Representative, Parker Appliance Co., Washington, D. C.; A. T. Hapke, Jr., Assistant Director, Military Contracts, Republic Aviation Corp., Farmingdale, L. I., N. Y.; M. C. Boyd, Chief Development Engineer, Ryan Aeronautical Corp., San Diego, Cal.; E. M. Scott, President, Scott Aviation Corp., Lancaster, N. Y.; J. P. Beacom, Simmonds Aerocessories, Inc., New York City; Alfred Reitherman, Assistant Plant Manager, Spartan Aircraft Co., Tulsa, Okla.; Arthur Weckel, Aeronautical Sales Manager, Sperry Gyroscope Co., Inc., Brooklyn, N. Y.; George E. Parker, Vice President, Sales, Summerill Tubing Co., Bridgeport, Pa.

C. O. Samuelson, Sales Manager, Locomotion Division, The Aviation Corp., Williamsport, Pa.; George S. Pfouts, Post War Research, Titeflex Metal Hose Co., Newark, N. J.; S. E. Steinbeck, Washington Representative, Tube-Turns, Inc., Washington, D. C.; Gunnar Karlson, Liaison Engineer, United Aircraft Products, Inc., Dayton, O.; Robert Reedy, Vega Aircraft Corp., Burbank, Cal.; H. R. Perry, Vice President, Waco Aircraft Co., Inc., Troy, O.; L. A. Faunce, Vice President, Warner Aircraft Corp., Detroit, Mich.; Gene P. Rhodes, Weatherhead Co., Airplane Division, Cleveland, O.; Ed Thierry, Hill & Knowlton, New York City.

Babson Paints Bright Picture of Aviation's Future in World Trade

"Of the future position in world transport of our air lines, there can be no doubt," writes Roger W. Babson, financial analyst, in a recent syndicated newspaper article. "This is witnessed by the inauguration of daily transcontinental all-cargo flights, and by the applications on file for transatlantic routes."

Babson predicts that in exchange for lend-lease and other Allied aid, the United States may "ultimately" secure permanent air bases in the West Indies, the Pacific, and elsewhere.

"Ostensibly these will be for defense, but actually they will be used for commercial purposes on a rental basis by our airlines," he adds.

Other extracts from Babson's article follow:

"The airplane has already given us greater speed than any mode of transportation that preceded it. It is our most efficient unit of travel; yet its perfection is still in its infancy. Certainly, in the near future, the convenience, safety, comfort and flexibility of air transport will improve greatly. The fact that planes move in the free medium of the air is a basic economic advantage not often considered.

"My bet is that air transport will expand far more rapidly than did the railroads and the tractions and that this will be accomplished at far less proportional expense. While the transport stocks have had a steep market rise, there is little question as to their basic soundness and future popularity. Events are very favorable for the entire air transport industry."

'Flying Wheel' Designed by J. A. Philpott



PATENTS ARE SOUGHT on the above airplane, designed by Jack A. Philpott of New Orleans, called the "Flying Wheel." It is designed to "ascend and descend vertically, hover motionless, fly faster and higher than even the newest entrant into the aviation field—the helicopter," says its inventor.

"Whereas the helicopter depends upon one motor, the 'Flying Wheel' employs a motor on each of the alternate rotating wings, with conventional driving motors located above the spherical fuselage in

somewhat the same manner as today's planes," he explains. "When in operation, the power-driven rotating wings exert great lifting power. Adjustable ailerons on the trailing edges of the rotating wings provide the means of increasing or decreasing the rapidity of ascent and descent."

Conventional horizontal and vertical rudders are provided for maximum maneuverability. Control mechanism is as functional as possible—designed so that "practically anyone" can learn to fly the plane.



The Eastern Air Lines KELLETT which flew mail for a full year from the roof of the Philadelphia Post Office. One of many Kellett "firsts" in its years of pioneering the manufacture of rotary wing aircraft.

THE PIONEER LOOKS TO TOMORROW

TODAY in cooperation with the U.S.A.A.F. Kellett is speeding the engineering development and production of autogiros and helicopters for military needs. We cannot give details now. Five Kellett plants are also applying their aeronautical ingenuity to the production of important parts for some of America's most famous fighters and bombers — Thunderbolts, Liberators, Warhawks and Marauders . . . while an expanding corps of forward-looking engineers continues Kellett's rotary wing developments for the future.

TOMORROW we look forward to opportunities for Kelletts to cut time and costs in patrolling electric power lines, oil pipe lines, in transporting mail and passengers, dusting crops—and in a wide variety of services for industry, commerce, forestry and agriculture. Kellett's years of experience and accomplishments continue to attract pioneering minds, men who, with us, see vast opportunities for rotary wing progress in the post-war era. Kellett Aircraft Corporation, Upper Darby (Philadelphia), Pennsylvania.

KELLETT

OLDEST ROTARY WING AIRCRAFT MANUFACTURING COMPANY



A Kellett accompanied Admiral Byrd on his voyage to the South Pole.



Border-patrol use is dramatically demonstrating Kellett serviceability.



. . . and Kellett is looking to a future of expanding service to the nation.

Minority Files New Aviation Bill

(Continued from page 19)

schedules regardless of the needs of the patrons of the local lines."

(c) *Exclusion of surface transportation agencies.*

"Air trunk lines normally are not engaged in local business or feeder business. Most surface transportation agencies are so engaged. If allowed to go into the air business, surface transportation agencies could not only supplement their local service by air service, but also could render a feeder service to the trunk-line air carriers and to the trunk-line surface carriers. While it is true that air service of a trunk-line nature by surface transportation agencies would be in competition with existing trunk-line air carriers, it is submitted that this would be beneficial to the development of air transportation as it has been beneficial to the development of motor transportation over a period of more than 20 years."

Advocates Integration

Although purportedly arguing against transportation monopoly, the Minority Report advocated integration of transportation.

It maintained that "coordinated national transportation system by rail, water, and highway as well as other means" is the expressed policy of Congress in the Transportation Act of 1940. The clause "as well as other means" obviously would include air transportation in national integration of transportation, according to the Report, which declared:

"... all forms of transportation whether on the surface or above the surface should be coordinated and placed on the same basis of opportunity for the promotion of the common weal in the progressing of a coordinated transportation service with equal opportunity to all duly qualified and duly authorized by appropriate tribunals to institute and engage in such transportation ...

"Surface agencies are experienced in the transportation field and have adequate capital. They will, of course, be subject to the same tests as to public convenience and necessity to engage in the business, and after engaging in the business will be subject to the same regulation as anyone else engaging in air transportation. Certainly the Civil Aeronautics Board as administrators in this respect can be trusted not to issue a certificate to a surface transportation company unless it is clearly in the public interest. The Board should be allowed the usual discretion in this respect, and not be limited by preconceived legislative limitations which thus far have not shown to be founded on fact."

'Destroys States Rights'

The Lea bill "deliberately and intentionally destroys States rights," but the Reece bill preserves them, by "retaining the 150-year old distinction between State and National jurisdiction," the Minority Report declared. Four important Lea bill provisions which the minority asserted would destroy States' rights were listed:

(a) It states that the U. S. is "to possess and exercise complete and exclu-

sive national sovereignty in the air space above the U. S."

(b) It takes away the rights of the States to regulate intrastate commerce by air, including certificates, permits, rates, and all other matters normally subject to State regulation of intrastate operations of public utilities.

(c) It takes away the rights of States to provide for safety at airports and approaches.

(d) It declares taxation by State or local authority to be inconsistent with the public interest.

'Result in Pandemonium'

Creation of a new Civil Aeronautics Commission, independent of the Commerce Department, as proposed in the Lea bill, "would result in pandemonium in air-commerce regulation at this time," the Minority report maintained. It said:

"The new commission would have to take over the work of the present Board, the work now being done by the State boards, and all the new additional duties created by (the Lea bill) ... with substantial increase in personnel and expense now being supplied to a considerable extent by the Department of Commerce under its normal functions. Personnel is difficult to obtain and when obtained is generally inexperienced. The result of such an attempted reorganization would be to create confusion in the middle of the war effort in an industry which is already overburdened and saturated with traffic. This confusion would naturally seep through to the operating and administrative personnel of the operating companies themselves, and still further complicate an already tight situation."

Two other points of difference between the Lea bill and the Reece bill are: (1) the Reece bill places definite limitations on Federal expenditures for airports and air navigation facilities; (2) the Reece bill postpones the training of additional air pilots, technicians, and mechanics at public expense "until the veterans of our forces who are ready, willing and able to do the job are taken care of."

Lea Bill Reported Out

The initial victory on U. S. aviation policy was won by the Lea bill, however, when a majority of Interstate and Foreign Commerce committeemen voted to report it out. This is the bill which will be brought before the House. How successful objectors to its policy will be in their attempt to swing the House in favor of the Reece bill, or a compromise between the Lea bill and the Reece bill remains to be seen.

During the fortnight, Rep. Alfred Bulwinkle (D. N. C.), chairman of the aviation subcommittee or Interstate and Foreign Commerce, filed a report with Congress in which the Lea bill's principal provisions were summarized, as follows:

"(1) It changes the name of the Civil Aeronautics Board to the Civil Aeronautics Commission and makes it an independent agency of the Government. It provides for the independent exercise by the Administrator of Civil Aeronautics of the functions vested in him, except that he is to act subject to the approval of the Commission, or in accordance with rules and regulations of the Commission, in the

exercise of certain of his more important functions.

"(2) It restores independent accident investigation to be conducted by a Director of Air Safety to be appointed by the President, by and with the advice and consent of the Senate.

"(3) It calls for an investigation and report by the Civil Aeronautics Commission with respect to the developments in air commerce and air navigation which may be anticipated during the post-war period, and such report is to include suggested plans for meeting such post-war developments.

"(4) It proposes an investigation and report by the Postmaster General and also by the Civil Aeronautics Commission as to the feasibility of carrying all classes of mail by air when delivery would thereby be speeded.

"(5) It extends Federal jurisdiction over air commerce, and further defines Federal jurisdiction over air navigation.

"(6) It provides for a broad program of aviation training and education.

"(7) It proposes a long range program under the direction of the Administrator of Civil Aeronautics for the development of air-navigation facilities, including airports.

"(8) It provides a plan for protecting the safety of flight by furnishing a means for removing or preventing hazards to air navigation on and in the vicinity of airports.

"(9) It provides additional means for necessary financial support of air transportation by the Government through direct payments.

Prohibits Free Rides

"(10) It contains stricter prohibitions against the issuance of passes in air transportation.

"(11) It provides means for further developing traffic by air through the granting of discounts for quantity transportation.

"(12) It provides for reasonable compulsory extensions of air-line service.

"(13) It brings contract carriers by air under economic regulation.

"(14) It provides for a study of multiple taxation of persons engaged in air commerce and of their employees, in order to develop recommendations to prevent the growth of unsound tax policies affecting civil aviation.

"(15) It introduces numerous improvements in the administrative procedure under the Civil Aeronautics Act.

"(16) It provides for strengthening and expanding the Weather Bureau service in aid of our air navigation both domestic and international.

"(17) It codifies civil-aviation law by bringing isolated legislative provisions into the Civil Aeronautics Act.

"(18) It provides for the more efficient settlement of disputes involving air carriers by directing the Civil Aeronautics Commission to set up a procedure for the voluntary arbitration of such disputes.

"(19) It gives the airman in command of an aircraft, or other authorized employees, adequate power to prevent dangerous, disorderly conduct and otherwise assures safety of operation of the aircraft.

"(20) It calls for an investigation and report by the Civil Aeronautics Commission as to matters affecting aviation insurance and reinsurance.

"(21) It makes clear that all employees of air carriers are subject to the Railway Labor Act, and it extends that act to contract carriers by air and their employees."

Fliers to Fight Locusts

Twenty-five Russian and 12 British pilots have been assigned to dust locust swarms with poison in the Persian Gulf area under the supervision of the Persian government early this month. The fliers have been trained to soar above the swarms and throttle down slowly with spray guns wide open. Supplies of dinitroorthocresol have been stored for the campaign.

Petroleum Research and War in the Air

A series of stories of original Esso research developments that help give U. S. planes an edge in the air.



**BEACON
LUBRICANT
M-285...**

**or how to be
nonchalant at
65° below zero!**



When the war first took to the stratosphere, military and civilian engineers found themselves also a little "up in the air."

To operate control bearings under these conditions called for a grease with seemingly impossible characteristics. It had to operate freely, without stiffening, down as low as 65 degrees below zero Fahrenheit. It also had to hold, without bleeding or running, at ground temperatures which, in desert sun, run 130 to 150 degrees high. It had to be water resistant. It had to avoid gumming as planes stood in stock or in transport.

The answer was found where a lot of hard-to-get petroleum answers have been coming from for years... in the Esso research laboratories. The new grease, called Beacon Lubricant M-285, will work down to minus 77 degrees, will resist melting up to 370 degrees ...and that was that!

The whole list of such special products and processes

developed over the years by continuing Esso research goes far to explain why the U. S. uses its petroleum resources more effectively than any other country on earth.

*ARMY-NAVY SPECIFICATION AN-G-3.



OWI Hails Stabilization of Production

(Continued from page 20)

the engine which powered the Hurricanes and Spitfires during the battle of Britain, improved as the Merlin X. Later the Merlin XX and 45 came out, and were used in various models of the Hurricane II and Spitfire V. It was the X and XX which Packard has been building in this country, as the V-1650-1. During 1942 a radical improvement was made in the Merlin series when the model 61 appeared with two-stage, two-speed supercharger, resulting in ability to maintain the desired pressure up to 40,000 feet instead of 30,000. Packard is building what is substantially the same engine under the designation V-1650-3, and its use in the new Mustang has resulted in sharply improved performance.

"In the field of radial air-cooled engines America admittedly leads the world. Improvements in this type of engine have not been as spectacular as in the liquid-cooled field, in which this country had been lagging, but steady progress has been made. Engines by both Wright and Pratt & Whitney have been stepped up in horsepower and efficiency. Chief of the new improvements is the aluminum cylinder head, and a new development which boosts the rate of climb in fighters."

The OWI has prepared the following catalog of combat planes "which have run up high scores in our favor", together with mention of newer types:

Curtiss P-40 (Warhawk)

In the opinion of the Materiel Command this famous plane has reached the limit of its developmental possibilities, and after this year it will be produced only in limited quantities, for operational training and for replacement in theaters where they have proved highly successful. The basic P-40 was designed before the war, and was the only fighter in quantity production when the Japs struck at Pearl Harbor. It has gone through numerous type changes, the most basic being the P-40F when the engine was changed from Allison to Merlin. From the F to the latest model, the changes have been minor. In all types and over every front the P-40 has made his-



North American P-51

"... highest ceiling ... highest speed
... of any fighter in existence."

tory—and is still making it, although newer fighters excel it in speed and climb.

Bell P-39 (Aircobra)

Although in the latest model P-39 ceiling and general performance have been improved, the P-39 has shared the climb-deficiency of the P-40. It has, however, been used successfully on a wide variety of fronts, including Russia, Alaska, New Guinea and the Solomons. It is being supplanted by a new model now under construction, with a low drag wing and a two-stage Allison supercharged engine which will make it an efficient plane at any altitude up to 38,000 or 40,000 feet. The greatest efficiency of the P-39 models has been below 15,000 feet. Like the P-39, the new plane will be equipped with cannon as well as machine-guns.

Lockheed P-38 (Lightning)

The latest model of this fast, powerful fighter has been given greatly increased horsepower in its Allison engine, improved pilot's vision, and improved intercooling for better high-altitude performance. It out-performs the Zero and later Jap fighters at all altitudes. The F-5A, a version of the P-38, is the plane used by the Army Air Forces for photographic reconnaissance. Equipped with cameras instead of guns, it ranges over enemy territory at low or high altitude as desired, to bring back pictures of terrain and installations, or of damage inflicted by bombing raids. The P-38 has always possessed the versatility that is coming increasingly to characterize all combat aircraft. It has excelled at low-altitude strafing, high-altitude fighting, and as a particularly long-range bomber escort. Its distinctive silhouette, with its twin tail booms,

has been seen over four major fighting fronts—the Aleutians, New Guinea, North Africa and Europe.

North American P-51 (Mustang)

Although superior to the P-40 and P-39, the original P-51 is also only a low and medium-altitude fighter. Now in production is a new P-51 with a highly supercharged, Packard-built, Rolls-Royce Merlin engine, similar to the Merlin 61 engine in the newest Spitfires. Its performance is reported as even better than that famous ship's. The new engine gives the plane the highest ceiling (up to 40,000 feet) and the highest speed (well over 400 miles an hour) of any fighter in existence. The A-36 (Invader), the fighter-bomber version of the P-51, has seen heavy service in the Mediterranean theater, and its best features are being incorporated in the new P-51, which will replace both the A-36 and the old P-51.

Republic P-47 (Thunderbolt)

The newest fighter at present in combat, the P-47, has been currently rolling up a score of approximately four to one in its contests with Messerschmitts and high-flying Focke-Wulfs over England, France and the Low Countries. Armed with eight .50 caliber machine-guns, and heavily armor-plated, it is capable of flying over 400 miles an hour and of reaching an altitude of 40,000 feet. This "huge, streamlined milk bottle," as it has been called, is the only Army fighter to be equipped with a turbo-supercharged 2,000 horsepower air-cooled Double Wasp engine (Ford-built Pratt & Whitney); the size of this great power plant is apparent from the plane's silhouette. Additional horsepower is being provided in newer models to increase the plane's rate of climb and to give it still greater speed. It is generally considered the world's best single-engine fighter for high altitude operations.

Grumman F4F (Wildcat)

This Navy fighter, with Pratt & Whitney Twin Wasp air-cooled engine and with folding wings for compact stowage on aircraft carriers, has run up many high scores in Mediterranean, Atlantic and Pacific fighting. Despite its limitations of speed and ceiling, it has maintained a consistent advantage of at least five to one over Japanese aircraft, mainly by use of superior tactics. Notable was the battle of June 16, when a Jap air armada attempted to attack Guadalcanal; 94 Jap dive-bombers and fighters were smashed, against a loss of six Wildcats. Although the F4F will continue to be manufactured for use on auxiliary carriers and for training, it is now being supplemented by a new plane now in production, the Grumman F6F (Hellcat).

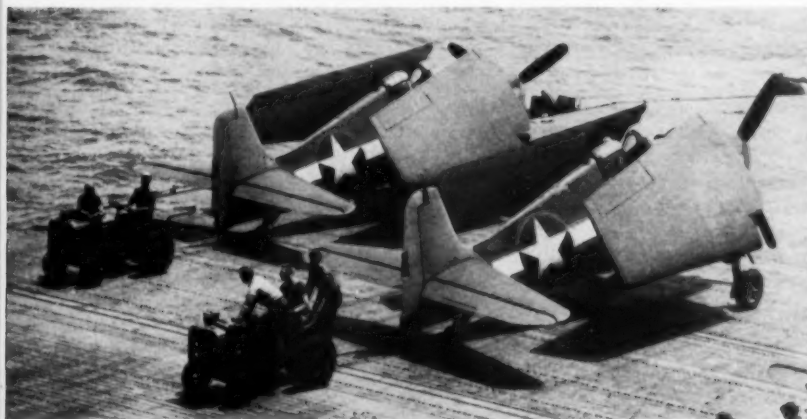
Grumman F6F (Hellcat)

The newest member of the Navy's fighter family is described by the Navy as "an answer to the prayers of our pilots for a plane which can fight the Zero on any terms." A big brother of the famous Grumman Wildcat, the Hellcat has better range, speed, climb, maneuverability and altitude. It has a 2,000 horsepower engine as compared with the Wildcat's 1,200. It has a low wing, improved armor, and a new flexible type gasoline tank which is an improvement over the ordinary puncture proof type. It carries .50 caliber machine guns and has plenty of additional space for ammunition for prolonged air battles.

Vought F4U (Corsair)

The Corsair also has a 2,000 horsepower Pratt & Whitney engine and is easily distinguishable by its inverted gull wing. The

(Turn to page 51)



Grumman F6F's

"... big brothers of the famous Wildcats, these Hellcats have better range, speed, climb, maneuverability, and altitude."

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XUM

The B.F. Goodrich Airplane of the month

GRUMMAN HELLCAT

WATCH THE HEADLINES as the name "Hellcat" is written into the history of this war. You'll read it, and it will be good reading . . . for everyone but the Axis. For this sensational Grumman fighter—designated F6F—is our Navy's newest form of sudden death with wings. It's at home on land or on a carrier's deck. And like its famous predecessor, the "Wildcat," this new speedster will also be one of the British Navy's standard fighters.

We're proud that Silvertown Tires, De-Icers, Bullet Sealing Fuel Cells, and many other B. F. Goodrich products are helping manufacturers like Grumman make American warplanes the best in the world. To one of these planes, the Grumman "Hellcat,"—our nomination as Plane-of-the-Month.

In war or peace

B.F. Goodrich

FIRST IN RUBBER

B.F. GOODRICH RUBBER RESEARCH FOR THE

Aviation industry

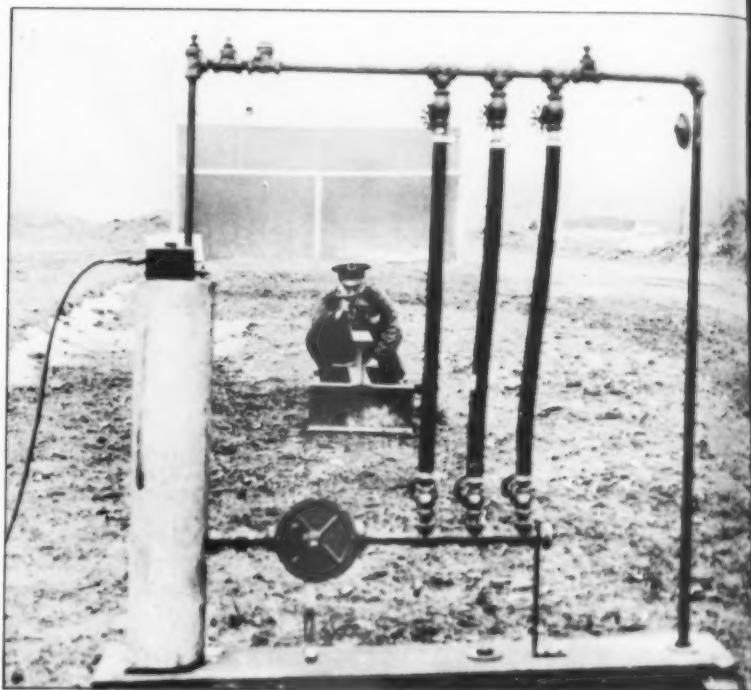
HE'S SHOOTING HOLES IN A HOSE... TO HELP BRING OUR FIGHTERS HOME

IT'S A mighty important hose he's shooting at, and it's mighty important that he score plenty of hits. For this hose is the vital link between an airplane's fuel tanks and its engines... a link whose failure due to bullet punctures, shell fragments, or any other cause could mean the loss of plane and crew. That's why he wants his 50 calibre bullets to hit and hit again... to see if the hose can take it.

And it can. This newest type of B. F. Goodrich Bullet-Sealing Fuel Hose has stood the firing tests both on the range and in combat. Time and again it has been shot up by 30's and 50's without fuel leakage. Actual cases are on record where good sized shell fragments have been found imbedded in the fuel hose of planes safely home from battle.

Back in 1941 was when B. F. Goodrich first began producing bullet-sealing fuel hose... following many months of development work. The original construction consisted of an Ameripol (synthetic rubber) tube, sealing layers, reinforcing plies, and an Ameripol cover. When gasoline penetrated the tube through any puncture, it caused the sealing layers to swell and thus seal the puncture.

Much research and many more developments followed, due to constantly changing performance requirements. The advent of aromatic fuel was responsible for one of the recent developments. This new fuel caused greater swelling and deterioration of the tube compound, hence construction utilizing an aromatic-resistant compound was needed. The



first one developed did an excellent job of sealing at normal temperatures; but at the sub-zero temperatures encountered in arctic and high-altitude operations, its sealing effectiveness diminished.

It therefore became necessary to develop still another construction utilizing a compound that would swell enough at sub-zero temperatures to seal efficiently yet not swell so much at normal temperatures that the inside diameter would be severely restricted. A construction of this type, with a few minor changes, has been in production since early 1942.

It is interesting to note that over 300 different constructions were made up and subjected to firing tests before today's efficient B. F. Goodrich Bullet-Sealing Fuel Hose was produced. And even now, B. F. Goodrich engineers continue their research, looking for still greater sealing efficiency... still greater protection for our combat fliers all over the world.

**MAKERS OF B. F. GOODRICH TIRES AND OVER 80 RUBBER
AND SYNTHETIC RUBBER PRODUCTS FOR AIRPLANES**



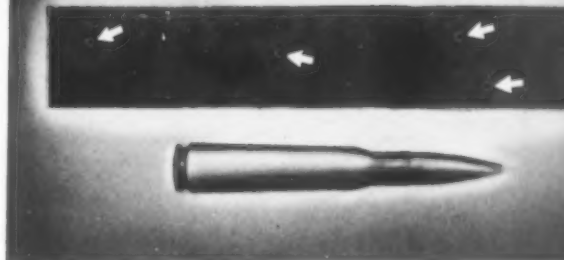
THERE'S AN EFFICIENT B. F. GOODRICH HOSE FOR EVERY AIRCRAFT APPLICATION

BULLET-SEALING FUEL HOSE

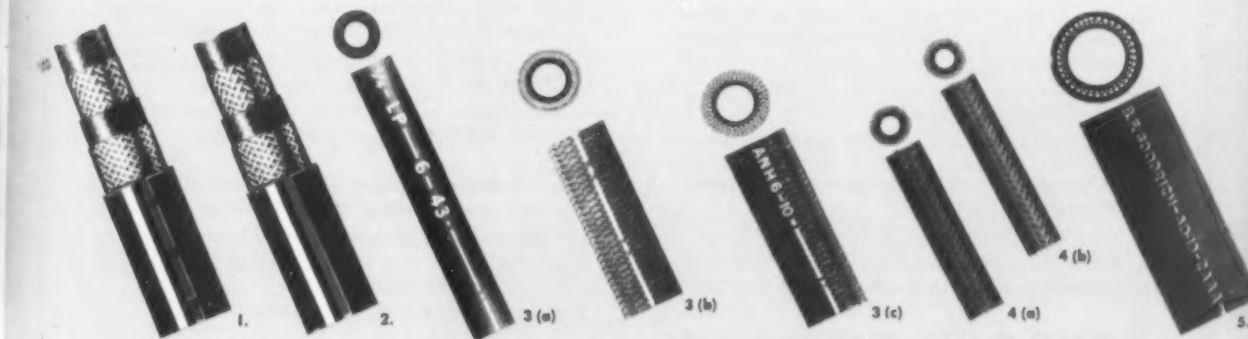


B.F. GOODRICH-AR-184-3-43

SCHEMATIC CROSS SECTION drawing of basic elements and side view showing identification markings. Designed for maximum sealing efficiency, this hose meets latest Army and Navy requirements and is approved for Army and Navy aircraft.



HERE'S PROOF of sealing efficiency: Although this small section of hose was punctured four times by .50 calibre machine gun bullets (shown in same scale below) it held fuel under 10 to 15 pounds pressure without leaking.



ALL B. F. GOODRICH HOSE CLEARLY MARKED FOR QUICK IDENTIFICATION

1. AIRCRAFT HOSE: All-purpose hose suitable for fuel systems. Meets latest revisions of Army-Navy specification AN-ZZ-H-456A. Identified by one broken red and one solid white stripe.

2. OIL AND COOLANT HOSE: Made with new Neoprene compound to meet coupling conditions encountered in oil and coolant service. Otherwise similar to (1) above. Solid red and solid white stripe.

3. (a, b, c) HYDRAULIC AND INSTRUMENT HOSE: (Note: This group compounded for use in working conditions as low as -70° F.

Identified by code --- as B. F. Goodrich low temperature resistant.)

(a) **SPEC. ANZZH626A LOW PRESSURE INSTRUMENT HOSE:** For use on air, hydraulic, low pressure and fuel lines up to 40% aromatic.

(b) **SPEC. ANZZ623A HIGH PRESSURE HOSE:** Available both in synthetic and braided cover.

(c) **SPEC. ANH6 MEDIUM PRESSURE HOSE:** Air Corps standard for both medium and high-pressure service.

4. OXYGEN BREATHING HOSE: (a) Low Pressure—broken green stripe; (b) High Pressure—solid green stripe.

5. FIRE PREVENTIVE HOSE: For use ahead of engine fire wall in commercial planes. CAA-approved. Aromatic-resistant.

NEW DATA SHEETS AVAILABLE: Contain the facts you'll want (sizes, thicknesses, weights, lengths available, etc.) on the complete line of B. F. Goodrich Airplane Hose. For your free copy, write today (on company letterhead, please) to The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.

In war or peace

B.F. Goodrich

FIRST IN RUBBER



GEORGIE GREMLIN WASHED OUT ON THIS

DE-ICER SERVICE QUIZ

CAN YOU SCORE 100%?

Complete the ten statements by simply picking the one correct part (a, b or c) following each numbered statement. See if you can get them all.

1. During every preflight inspection, De-Icers should be checked for punctures, loose patches and for freedom from oil because . . .
 - a. The crew chief says so.
 - b. Punctures admit too much sunlight.
 - c. It insures successful operation.
2. Soapstone or talc is applied between the De-Icer and wing skin . . .
 - a. To act as an insulator.
 - b. To fill in cracks.
 - c. To act as a lubricant.
3. Any oil found on De-Icers should be removed as soon as possible with a neutral soap and water solution because . . .
 - a. De-Icers don't need outside lubrication.
 - b. Oil is extremely harmful to rubber.
 - c. Someone might slip and break his neck.
4. If any damage to the De-Icer—large or small—is discovered . . .
 - a. Find out who caused the damage.
 - b. Make sure the hydraulic system is full.
 - c. Ground plane until De-Icer repair is made.
5. Except in emergencies, the standard B.F. Goodrich De-Icer Repair Kit should be used for surface breaks whose length is . . .
 - a. Three-quarters of an inch or less.
 - b. Three inches or less.
 - c. Five inches or less.
6. Only the materials in the B. F. Goodrich De-Icer Repair Kit should be used because . . .
 - a. De-Icers must be repaired with specially compounded rubber.
 - b. These materials are gremlin-proof.
 - c. Other materials are more expensive.
7. Whenever possible, a vulcanized repair is best for large surface breaks because . . .
 - a. A vulcanized repair uses less rubber.
 - b. It is stronger, neater and lasts longer.
 - c. It can be done quicker.
8. Adhesive tape is applied to the underside of each fairing strip's trailing edge to . . .
 - a. Prevent marring the skin of the airplane.
 - b. Carry inspection data.
 - c. Show manufacturer's code number.
9. For most efficient operation, the De-Icer pressure gauge should read 8 lbs. per sq. in. because . . .
 - a. This pressure keeps the plane balanced.
 - b. This pressure keeps oil flowing freely.
 - c. This pressure is necessary for proper inflation of the tubes without danger of rupture.
10. A complete cycle of De-Icer inflation should take approximately 40 seconds because . . .
 - a. Perfect timing shakes off chisel-jawed gremlins.
 - b. A 40-second cycle permits ice to form and be cracked off most efficiently.
 - c. A faster cycle might cause wing flutter.

WHAT IS YOUR SCORE?

Each correct answer counts 10. 1-c, 2-c, 3-b, 4-c, 5-a, 6-a, 7-b, 8-a, 9-c, 10-b.

FREE! Pocket-size booklet on De-Icer Servicing and Installation! Every trainee and instructor who works with De-Icers will want a copy of this interesting and informative booklet. Completely illustrated with step-by-step drawings, it shows the correct procedures for removing, repairing, storing and re-installing De-Icers. For your free copy of "De-Icer Service and Installation," write today to the B. F. Goodrich Company, Akron, Ohio.

B. F. GOODRICH, AERONAUTICAL DIVISION, AKRON, O.

Skyway or Highway

B.F. Goodrich

FIRST IN RUBBER

Warner

(Continued from page 38)

likely limitation will be the reservation of cabotage rights."

Warner doubted whether dividing the world into "spheres of influence" would be satisfactory. He further doubted whether the Great Powers would use their influence to obtain unique privileges. "The fact is, however, that large expenditures and great technical ability are required to develop airlines, and . . . this fact by itself will limit the number of countries which operate anything except short local routes. In one respect, at least, leadership will be indispensable. Safe and efficient operation will demand that air traffic rules and regulations as to airworthiness and other matters be standardized."

Can't Eliminate Subsidies

There is little reason to expect that subsidies will be completely eliminated from air transport after the war, Warner said, pointing out that "many states are likely to wish to maintain air communications on certain routes which would not produce sufficient commercial revenues to cover the cost of operation . . ." A direct limitation of subsidies by international agreement is often proposed but seems impracticable because of national difference in cost levels and because indirect subsidies may take an infinite variety of forms. Control might be applied more easily to the uneconomic consequences of subsidies, such as (a) rate-cutting; (b) maintenance of luxury services at normal rates; (c) maintenance of a volume of service beyond what the traffic actually warrants.

"One way to prevent rate-cutting and other extravagant and uneconomic practices would be to create an international commission having powers over international services analogous to those exercised by the Civil Aeronautics Board in the U. S. Its functions could include the approval of tariffs, the setting of maximum limits on volume of service and the hearing of complaints regarding unethical or uneconomic competitive practices. It might even be given the power to certify routes and determine which services should be operated by which carriers and how much competition there should be on particular routes. It might be a continuous or frequently recurrent session of representatives of the governments concerned in a particular area; or it might be a genuinely international agency, the members of which were chosen individually by some process designed to minimize the likelihood that they would turn out to be merely national advocates.

Ideas Far Apart

"The two ideas are far apart. An agency of the first type would function through diplomatic adjustments; every issue would be resolved by compromise. If an agency of the second type lived up to its expectations, it would be a judicial body and behave as such, like the quasi-judicial agencies of national government now possessing similar powers within their respective territories. An agency whose members had no commitment or responsibility to any particular national interest would be clearly superior in theory; but to endow

Aviation Gas Chairman to Report

A report on the activities of the aviation gasoline advisory committee of the Petroleum Administration for War will be made at the 24th annual meeting of the American Petroleum Institute in Chicago, November 9, by H. G. Burks, Jr., chairman of the committee.

such a body with actual powers, as opposed to merely advisory functions, would mean a very sharp break with tradition, and any proposal of the sort would have to overcome a strong feeling against entrusting national interests to an agency composed largely of 'foreigners.'

"Unless an international air commission of the judicial type is created there certainly will be need for frequent meetings among the aeronautical officials of states having common problems. Disputes over subsidy arrangements for competing lines can be reduced, if not averted, by frequent and frank exchanges of views among the governments concerned. Rates will have to be harmonized with conditions of service either by governmental regulation or by agreement among the carriers themselves. The need for governmental controls should not often arise. Commercial enterprises would be slow to start rate wars, for reprisals would be easy. But how the controls are to be supplied when they are needed ought to be planned in advance."

Warner emphatically stated that air bases "should be open to the traffic of all countries on equal terms, and their radio and other facilities should be available to all comers, of course, within the limits of . . . safety provisions . . ."

Propeller Straightener



A workman in the plant of Thomas Machine Manufacturing Co., Pittsburgh, illustrates how a hollow propeller is placed in a cradle and straightened against a metal block shaped to fit its contour at a station numbered on the blade. The Thomas company manufactures blocks to fit the different types of propellers.

NWA Tax Case

(Continued from page 24)

assured that multiple taxation may be avoided. The rule has been tried and proven for a great many years and has been found satisfactory. Insofar as the aviation industry is concerned, it would be in its best interests if such a rule were adopted."

The Minnesota case was summarized as follows:

"The tax does not violate the due process clause of the Federal Constitution because these planes are in Minnesota as much if not more than in other states and receive benefits of and protection from the laws of that state.

"The petitioner has failed to sustain the burden of proving the tax illegal. It does not appear that any other state has acquired the right to tax any of these planes. They are in constant flight from state to state stopping only temporarily in some of them to take on or discharge passengers or cargo.

Contention Fails

"The contention that the rolling stock cases apply fails because it is not shown and cannot be shown that such an average number of the planes were so constantly present in any state beyond the domicile as to acquire a situs therein. . . .

"Nor is there any basis for the claim that there is precedent in the rolling stock cases for the principle that a domiciliary state is limited in its jurisdiction to tax a proportion because of the use of the property in other states. These cases permit a foreign state to tax according to their full value, the average number of items of rolling stock constantly within its borders, irrespective of the rights of other states. There is no requirement to apportion. It is impractical to apply the principle of the rolling stock cases to airplanes because of their tremendous speed which makes it possible to operate regular scheduled transcontinental passenger and cargo service with very few ships. In 1939 all the domestic air carriers in the U. S. had in service and reserve only 265 planes. So that if it could be applied, the same planes would have a situs for taxation in many states.

"Further, different rules would be required for the taxation of planes engaged in non-stop flights passing over many states in which they do not land—and for planes engaged in trans-oceanic and foreign service.

"The tax does not violate the commerce clause because it has long been held that a non-discriminatory tax upon the instruments of interstate commerce by a state having jurisdiction is permissible.

"An alternative, sound in principle and tried and proven by long usage, is to be found in the cases holding ships, whether employed in foreign or interstate commerce,—on casual or regular scheduled service, in the coastwise trade or upon the inland waters, taxable only at the domicile of the owner because their stops at ports are temporary and without any purpose of abiding there. This rule could apply to all forms of interstate and foreign commercial aviation."

Average Volume of Air Route Applications Filed With CAB

WHILE MANY PROSPECTIVE applicants for air routes have been attending the Local-Feeder-Pickup hearings with the idea of gaining information on which to base their applications, filings of new and amended applications at the Civil Aeronautics Board during the past two weeks have maintained the average pace of the past few months.

The CAB records show that 23 applications were filed during the period from Oct. 9 to and including Oct. 22. Many of them were for local feeder services based on the possibilities of the helicopter.

Among the applicants were two for foreign routes. Northwest Airlines, Inc., desires a route from Seattle to Honolulu as a part of its extensive expansion plans. Edward G. Bern, formerly manager of Hughes Aircraft Co., filed as an individual for a route from Washington to Dublin, Ireland via New York and Boston.

Braniff Airways, Inc., which recently announced a new financing program seeks to enter the transcontinental field with a route from Los Angeles to Washington, New York and Boston. National Airlines Inc. also filed for many new routes in the domestic field.

Most unusual of the applications filed was by Automobile Air Freight Corp. of Detroit, asking for domestic and foreign routes to transport automobiles, hearses, tractors, trucks, buses, taxicabs and other heavy freight through use of trailer freight planes.

A brief summary of the applications filed follows:

Automobile Air Freight Corp.

This company with offices at Foot and Bates St., Detroit filed for a domestic air route to transport in irregular and unscheduled operations automobiles, chassis, commercial vehicles, hearses, tractors, trucks, taxicabs, busses, auto parts and accessories and other general merchandise from points of origin within 100 miles of the boundaries of the Great Lakes to all points in the continental U. S. The company is owned by the Overlakes Freight Corp. which in turn has the controlling stock interest in Nicholson Universal Steamship Co., the Newtex Steamship Corp. and The Great Lakes Forwarding Corp. The applicant proposes to use conventional planes, trailer freight planes and helicopters (Docket 1104). This same company asks to render an identical service to points in Canada and Mexico in a second application. (Docket 1005).

Braniff Airways, Inc.

A detailed story of this company's application for a transcontinental route between Los Angeles and Washington and New York may be found on page 54. (Docket 1102).

Edward G. Bern

This applicant of 18 Carlton Road, Great Neck, L. I., filed for a route to transport persons, property and mail between Washington and Dublin, Ireland, via intermediate points of Baltimore, New York and Boston. Bern was formerly manager of the Hughes Aircraft Co. (Docket 1112).

Central States Aviation Corp.

Ryal Miller, president of this company, located at Sioux City, Iowa filed two applications for transport in scheduled operations of persons, property and mail between terminal points, Chicago and Billings, Mont. via several intermediate points and between terminal points—Sioux City and Des Moines. Multi-engine aircraft would be used. (Docket 1117). In the other application, the company asked to operate a number of helicopter routes, radiating from Sioux City and extending into Nebraska and South Dakota. (Docket 1118).

Continental Air Lines

This carrier filed an application to extend and consolidate two of its present routes with Memphis, Tenn. as a terminal point. The application designated two routes from Tulsa, Okla. (1) via Muskogee, Okla., Fort Smith and Little Rock, Ark. and 2—via Joplin and Springfield, Mo. and Jonesboro, Ark. The Kansas City-Memphis extension would embrace stops at Sedalia, Mo. Springfield and Jonesboro enroute. (Docket 1097).

Courier Express, Inc.

Applicant located at 1st and Melborne Streets, Logansport, Ind., filed for routes involving such principal cities as St. Louis, Chicago, Indianapolis, Louisville, Detroit, Cleveland, Cincinnati and Columbus. Applicant would transport light weight, high value freight. (Docket 1115).

Delta Air Corp.

This carrier filed application to amend its certificate for Route 24 so as to extend its service from Shreveport to Kansas City, via Texarkana, Ft. Smith, Muskogee, Tulsa and Joplin. (Docket 1100).

Eagle Airlines, Inc.

This company with offices in the Missouri Pacific Bld'g, 13th and Olive St., St. Louis (3) Mo. filed for a certificate to engage in scheduled and non-scheduled air transport of persons, property and mail over 16 proposed feeder routes in Missouri, Kansas, Colorado, Arkansas, Texas, Louisiana, Nebraska, Oklahoma, Tennessee and New Mexico. The applicant has authorization to issue 1,000 shares of no par value stock, 750 shares of which are owned by Guy A. Thompson, trustee, Missouri Pacific R. R. Co. (debtor) and 250 shares by Texas & Pacific R. R. Co. The applicant proposes to use both helicopters and conventional aircraft. (Docket 1103).

Florida Motor Lines Corp.

This company, whose address is Box 329, Jacksonville, Fla., asked for 19 helicopter routes for scheduled transportation of persons, property and mail in Florida. (Docket 1116).

National Airlines, Inc.

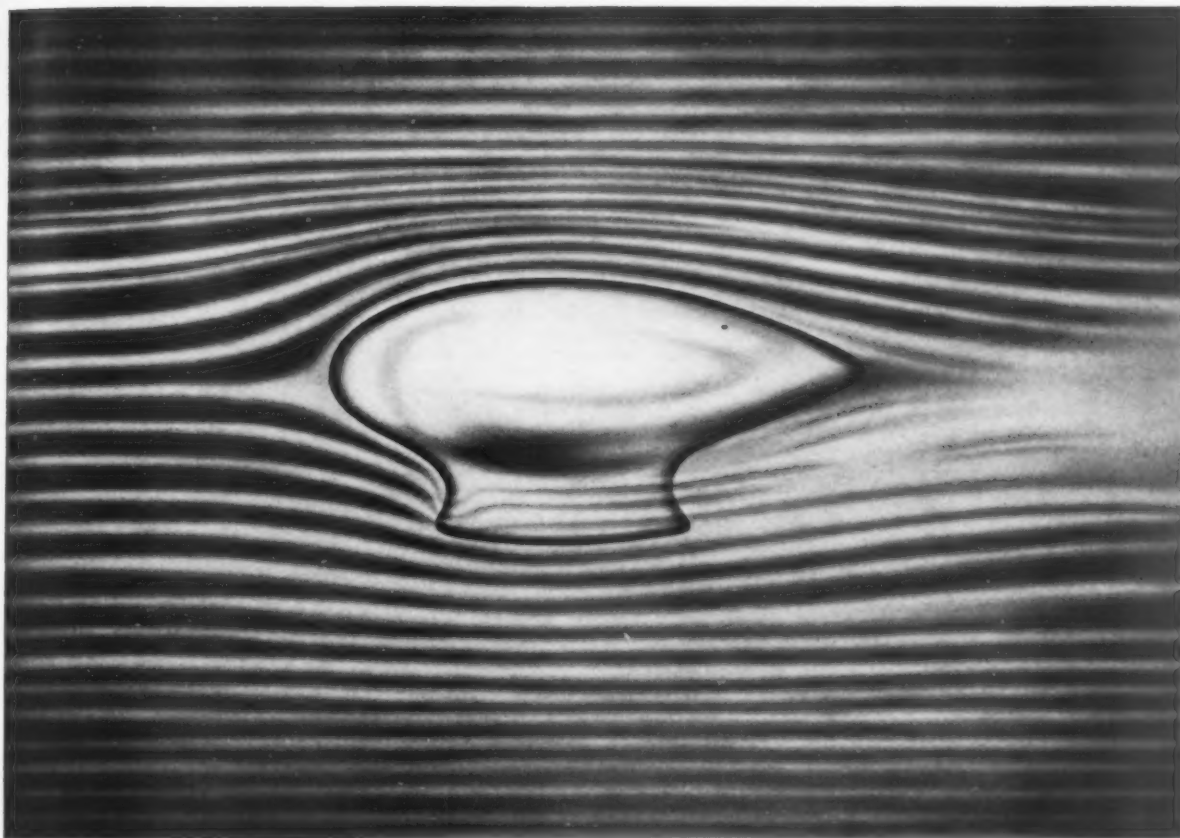
This carrier filed four applications for extensions to existing routes which would give the company terminals at Kansas City, Washington, D. C., Cincinnati, Pittsburgh and Detroit. It asks that Route 31 be extended from Jacksonville and intermediate points to terminal point Kansas City (Docket 1007) routes from Jacksonville to Washington, one via

(Turn to page 56)

Inside a United 'Flying Freight Car'



This interior view of one of United Air Line's 'Cargoliners,' with which the airline inaugurated a coast-to-coast all-cargo schedule for essential wartime mail and express Oct. 16, shows how the Douglas DC-3 has been stripped of passenger furnishings. Instead, the interior features plywood floors, plywood siding, steel screened windows, and cargo bins. They carry three tons of cargo as compared with the average 1,400 pounds transported abroad one of United's regular passenger-cargo 'Mainliners.'



Streamlined!

THE principles of streamlining are clearly evident in every speedy bird and fish. Yet thousands of years passed before man perceived these principles and applied them to boats and vehicles. With the high-speed airplane, streamlining came into its own. Exposed surfaces began to be scientifically shaped and finished so that the air-stream would flow around them with least resistance, less drag. Less drag, of course, means higher efficiency, more speed. In a combat ship it may mean the difference between life and death.

Smoke tunnel tests, as illustrated above, guide the engineers in the development of streamlining to reduce drag and turbulence. When loop antennas were first used on

aircraft, flying speeds were low—the relatively high drag of an open annular (doughnut) loop was unimportant. As speeds increased, this drag became a serious handicap. Realizing the gravity of this problem, RCA engineers early in 1935 began tests on a streamlined housing with an internal loop. Today, wind-tunnel tests show that at very high speeds, an RCA streamlined loop has an extremely small drag. The loop can be turned freely without affecting the aerodynamics of the plane. Accurate bearings can be taken; remote control is simplified.

RCA Aviation Radio Equipment is the net result of engineering initiative, ingenuity, and exhaustive research at every stage of theory, design, and manufacture.



RCA AVIATION RADIO

Radio Corporation of America, Camden, N. J.



New Coast-to-Coast Route Sought by Braniff Airways

BRANIFF AIRWAYS, with applications on file for foreign service, recently filed with the Civil Aeronautics Board an application for a transcontinental route which would connect Los Angeles with Washington and New York.

In announcing the decision to file for such a route, T. E. Braniff, president of the company, said there was a necessity for an additional coast-to-coast route.

"The fat of the air transport business is in the major markets and that fat must be more evenly divided among the smaller carriers," Braniff declared.

Braniff's application proposes a new route from Los Angeles, through Albuquerque, Amarillo, Oklahoma City, Tulsa, St. Louis, Missouri, Cincinnati, Washington, Baltimore, Newark-New York and Boston. Between Cincinnati and New York a double lane traffic route is contemplated, one lane of which would operate between Cincinnati, Columbus, Pittsburgh and Newark-New York, the other would connect Cincinnati, Washington, Baltimore, Philadelphia and Newark-New York. Coast to coast operations would be conducted over both routes. Braniff contends this would contribute substantially to the elimination of the existing air traffic bottleneck on the eastern end of existing transcontinental air routes.

Braniff further stated that figures recently published by CAB taken from surveys of the air transportation industry show that approximately one-third of the nation's total air business originates in New York, Boston, Washington and Los Angeles.

"There are only three transcontinental air carriers," said Braniff "but in the year ending June 30, 1943, they per-

formed 65% of the total revenue passenger miles operated, 72% of the air mail pound miles and 77% of the air express pound miles. It is obvious, therefore, that there is a great outstanding need for an additional coast-to-coast route, connecting the major coastal points and embracing along its route the important communities we propose to serve which are not now served on any transcontinental operation," Braniff declared.

"When the fourth of the 'Big Four' group is added to the three transcontinentals, we find that these four carriers are performing more than 78% of the passenger miles, 84% of the mail pound miles and 86% of the express pound miles of the entire nation," Braniff stated.

"We further find that in this group of four air carriers is concentrated more than 76% of the total assets of the industry, nearly 84% of the unappropriated earned surplus and nearly 85% of the profit accruing to the industry during the first five months of 1943. These carriers took in approximately 79% of the total operating revenues of the industry during the first five months of 1943.

"The smaller carriers on the whole are operating the same equipment and rendering identical service at costs which generally do not exceed and frequently are considerably less than those of the four largest carriers. The concentration of revenues and profits is largely the result of the fact that these carriers tap the nation's major traffic centers," Braniff contended.

Asserting that Congress, through the language contained in the Civil Aeronautics Act, provided that there should be

UAL Creates Rate, Tariff Job; Dilworth Appointed

United Air Lines has created the position of rate and tariff analyst and has appointed H. Delaney Dilworth, Department of Agriculture economist, to the post with offices at UAL general headquarters in Chicago.



Dilworth

According to C. P. Graddick, director of United's air cargo department, the position is the first of its kind in the air transportation field. It was created in view of the steadily increasing volume of war-time air shipments and the corresponding need for up-to-date information on rates and tariffs.

Dilworth was a traffic analyst for the Tennessee Valley Authority from 1937 to 1941 when he entered the Department of Agriculture in Washington.

developed "competition to the extent necessary to assure the sound development of an air transportation system, Braniff said the way this competition could be carried out was by granting the smaller carriers access to the major markets. If this is not done, Braniff contends, the small carrier will find itself unable to compete with carriers who have the benefits of profits accruing from these principal sources of traffic and who are currently proposing to expand their operations so as to parallel practically every smaller operator in the United States.

"If they are successful, they would be in position to use the profits gleaned from the heavy demand of the major traffic-producing centers to smother competition throughout the nation and the result will be a concentration of air traffic in the hands of a few carriers contrary to the public interest and jeopardizing the declared policies of Congress," Braniff asserted.

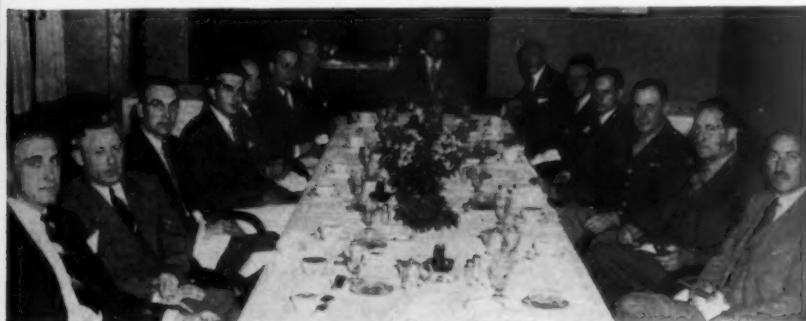
Braniff pointed out that the heaviest traffic lane in America, if not the entire world, is between Washington, Philadelphia and New York and it is served by only two carriers. The second heaviest traffic route is between New York and Boston, said Braniff, and it is served by only one carrier.

"Between Pittsburgh and New York there is only one carrier although the traffic volume is almost as great as that which exists between Los Angeles and San Francisco where CAB recently has increased the service from one to three carriers," Braniff stated.

"In addition to being the shortest coast-to-coast route" Braniff said "our proposed route will provide transcontinental service to Tulsa and Oklahoma City, which, although located in practically the dead center of the United States between the Atlantic and Pacific, are not now served on any transcontinental route."

Braniff's application asks a consolidation for hearing and decision with other applications providing similar services.

TWA's Board of Directors In Session



A new director, Gilbert Scribner, Chicago businessman and real estate broker, was introduced to the Transcontinental & Western Air board and officers, at a recent meeting in Chicago. Above photo of the meeting shows, left to right around table: Vincent P. Conroy, Kansas City, vice-president of traffic and director; C. E. McCollum, Chicago regional traffic manager; Carl Herre, Kansas City, assistant secretary; John Lockhart, Kansas City, secretary and treasurer; George Spater, Kansas City, attorney; E. Lee Talman, Kansas City, executive vice-president and director; Mr. Scribner; Jack Frye, Kansas City, president and director; Sidney Maestre, St. Louis, director; Jack Franklin, Kansas City, vice-president, engineering; Fred Pastorius, Chicago regional operations superintendent; Lt. Col. Nelson S. Talbott, Dayton, director; LaMotte T. Cohu, Hawthorne, Calif., director; and W. H. Cohu, Hawthorne, Calif., Northrop Aircraft Company, guest of his brother, LaMotte Cohu.

Australia
June 18, 1943
Hallicrafters
Chicago, Illinois
U.S.A.

Dear Sirs:

In the May issue of QST, appeared a picture of your Hallicrafters Model S-29 Radio...and a group of men and myself listening in on a program...in the New Guinea area.

The Radio which appears in this picture was purchased by myself in August, 1941. This same radio has been in continuous operation...and has caused no trouble.

This Hallicrafters Model S-29 was one piece of equipment which every man...was anxious to carry. It was carried at all times...through New Guinea jungles...in the midst of a jungle swamp...where tropical rains fell heavily...in extreme damp heat, this radio never once faltered. It brought untold relief to every fighting man...caused tense nerves to become relaxed, bringing happy moments to dark surroundings. The part played by this instrument could never otherwise be duplicated. Every night...the fellows would listen to the news from home. Notes were taken...and news was called to the troops on front line duty. Without this radio there would have been no contact with the outside world.

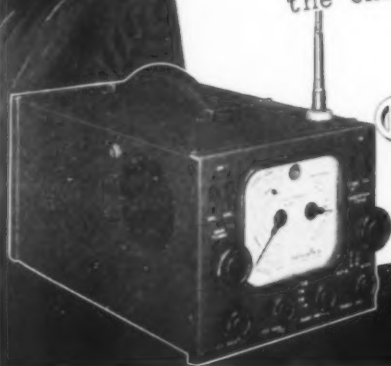
This same radio is operating perfectly and the only replacement needed was a new set of tubes.

Sincerely yours,

Glen V. Blakeslee
Glen V. Blakeslee

BUY MORE BONDS!

the hallicrafters co.
CHICAGO, U.S.A.
WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF SHORT
WAVE RADIO COMMUNICATIONS EQUIPMENT



Applications

(Continued from page 52)

Roanoke, the other via Lynchburg, Va. and Richmond, two routes to Pittsburgh and three routes to Cincinnati (Docket 1008) that Route 31 be extended from Jacksonville and intermediate points via Charleston, W. Va. with two routes beyond to terminal point Detroit. (1009). In another application National asked for two additional routes to Pittsburgh and Chicago, one route branching off at Charleston, W. Va. direct to Pittsburgh, the other going to Chicago, via Cincinnati and Indianapolis with another leg via Dayton and Indianapolis. Applicant asks a certificate to transport persons, property and mail in scheduled operations. (Docket 1113).

Northwest Airlines, Inc.

This carrier filed for a route from Seattle to Honolulu, a distance of 2,681 miles. (Docket 1110). In another application, Northwest asked to amend its Route 3 so as to include Aberdeen, S. D. as an additional intermediate stop between Minneapolis-St. Paul and Billings, Mont. Applicant stated there now are excellent airport facilities at Aberdeen and that this stop is located strategically on the company's direct line. (Docket 1101).

Otto Aviation Corp.

Applicant of 9 Clinton St. Union Bldg., Newark, N. J. filed an application for transport of persons, property and mail over 5 routes between Newark and intermediate points to terminal points Morristown, 150 miles; Cape May 164 miles; Atlantic City and Cape May 150 miles; Greenwood Lake and Lake Hopatcong 90 miles and Asbury Park 247 miles. Applicant would use twin-engine six to eight passenger planes. (Docket 1096).

Pacific Northwest Airways

This company of 628 N. W. 6th Avenue, Portland, (9) Oregon, asked for 13 feeder routes in Washington and Oregon; also charter service within 500 mile radius of Seattle and Portland. Applicant would use helicopters. (Docket 1099).

Clarence E. Page

Applicant of P. O. Box 1946, Oklahoma City, filed for 65 air routes in nine central-west and southern states, blanketing an area from Garden City, Kan., east to St. Louis and south to New Orleans, and west to Corpus Christi. Applicant proposes to use conventional aircraft and helicopters in transport of persons, property and mail. He states he will form a partnership or corporation when all or any part of these routes are granted. There are 15,475 air miles of route involved. (Docket 1111).

Southair, Inc.

This company located at 705 Union Planters Nat'l Bank Building, Memphis (3), Tenn., filed for 17 feeder routes from Chicago extending to New Orleans. William R. Kent is president of the company. Applicant now operates Army training schools. (Docket 1098).

State Airlines, Inc.

Applicant with address at P. O. Box

CAB Calendar

NOV. 1—Adjourned hearing on "control" feature of Northeast's application in the New York-Boston cases. (Docket 13-401-B-1).

NOV. 1—Hearing on American Airlines' application to include Akron as a stop on its Route 22. (Docket 573).

NOV. 15—Hearing on petition of Florida political units asking name of Sarasota Airport be changed to Sarasota-Brandenton Airport. (Docket 980).

NOV. 16—Pre-hearing conference on all applications for certificates involving new air service between the U. S. & points in Mexico, South America & the Caribbean area.

NOV. 26—Oral argument in passenger fare investigation of Braniff, Delta & National air lines.

1862, Charlotte, N. C. filed for eight routes in scheduled transportation of persons, property and mail between the following terminal points: Detroit and Wilmington, N. C.; Detroit and Jacksonville, Fla., via Roanoke, Va.; Detroit and Jacksonville via Asheville, N. C.; Louisville and Wilmington, N. C.; Cincinnati and Charleston, S. C.; New Bern, N. C. and Meridian, Miss.; Louisville and Jacksonville; and to or between such other terminal or intermediate points adjacent to those mentioned in the application. (Docket 1114). In another application, this same company seeks to amend its Docket 673 to include routes between Pittsburgh and Jacksonville; Cincinnati and Norfolk; Louisville and Wilmington.

Western Air Lines, Inc.

Details of this company's application asking CAB approval of its purchase of Inland Air Lines, Inc. may be found on this page. (Docket 1106).

Northeast Airlines Looks to CAB for Two Decisions Affecting Its Expansion

Two matters affecting the expansion plans of Northeast Airlines Inc. will probably be decided during the coming month.

On Nov. 1 representatives of Northeast planned to introduce testimony before a CAB hearing tending to prove definitely that it is not controlled by the railroads. This is a part of the adjourned phase of the hearing on the New York-Boston route applications.

In the other case, Northeast has asked Board approval of its purchase of Mayflower Airlines, Inc. Mayflower holds a certificate for transport of persons and property, except mail, between Boston, via Provincetown, Hyannis, Oak Bluff and terminal point Nantucket.

Northeast's application sets forth that on Oct. 13, 1942 Mayflower Airlines was petitioned into bankruptcy. It further states that William L. Berger, trustee ap-

WAL Seeks Approval Of Deal With Inland

Western Air Lines Inc. has filed with the Civil Aeronautics Board an application for approval of its acquisition of control of Inland Air Lines, Inc.—a deal disclosed in the Oct. 15 issue of *American Aviation*.

The two carriers entered into a purchase-sale agreement Oct. 7. Western has agreed to purchase 137,241 shares of Inland's 164,218 shares of \$1 par value capital stock. Western, in its application before the Board, stated it would attempt to buy the remaining outstanding 26,977 shares from such holders as may be willing to sell upon substantially similar terms as those contained in the purchase agreement with Inland. The sale price was not mentioned in Western's application.

Asking early approval by CAB, Western states it will call a meeting of the stockholders of Inland to authorize acquisition by Western of all of the assets of Inland, subject to all liabilities of the company. It asks an early hearing on the application, with full approval of the purchase agreement recently entered and of Western's plans to acquire the remaining outstanding stock and transfer of Inland's certificates of public convenience and necessity.

Western's application states the public transportation rendered by the two companies respectively is not competitive but complementary.

"The only city where two routes connect is at Great Falls, Mont. and at that point Western's Route 52 northward from Great Falls to Cut Bank, Mont. and Lethbridge, Ontario, Can. serves as a feeder to Inland's Route 28. In other respects the routes of Western and Inland serve different areas and are not competitive," the application states.

"At Great Falls, Western and Inland have shared a joint ticket office for a number of years and at Great Falls airport, Western has performed various services for Inland's operations," the application further states.

Western contends that consolidation of these carriers' services will make for more adequate and efficient operation and will effect savings to the post office department and the general public. (Docket 1106)

Vancouver Route Sought

Vancouver Island Air Lines, Ltd. of Vancouver, British Columbia, Canada recently filed in Ottawa an application for a certificate to operate a passenger and freight air transport service between Victoria and Vancouver Island points and mainland cities in both the United States and Canada. The company has announced it will file a similar application with the Civil Aeronautics Board in Washington for those portions of the routes to be operated in this country.

pointed by the referee in bankruptcy, and Mayflower Co. has agreed to sell the carriers assets, which include the certificate of public convenience and necessity and 115 acres of land with improvements situated in Nantucket, to Northeast for \$17,500. Northeast contends it would be in the public interest to have this purchase approved.

Superhuman "Lungs" for Stratospheric Flight . . .

To men flying at high altitudes, oxygen means life. As a consequence, oxygen regulators must be completely dependable . . . and responsive under all conditions of operation. Every step in the manufacture and testing of Pioneer* Demand Oxygen Regulators accordingly reflects the ultimate in precision and exactitude. For example: Inside the "cold box," which reproduces the stratospheric temperature of -67°F , the functioning of this vital device is scrupulously checked under a wide range of operational conditions. This is typical. Equally rigid control through every phase of production assures the superior quality and performance of Pioneer Instruments. Eclipse-Pioneer Division, Teterboro, N. J.



**THE PIONEER
DEMAND OXYGEN REGULATOR**
automatically mixes and supplies air
and oxygen in the varying percent-
ages required for different altitudes
. . . including the undiluted element
at altitudes requiring pure oxygen.
An extremely important member of
"The Invisible Crew" . . . now speed-
ing to world battle fronts from the
more than thirty Bendix plants.

PIONEER INSTRUMENTS


TRADE MARK OF BENDIX AVIATION CORPORATION

Teamwork Made America First in the Air!



THE urgency of creating our great Allied air armadas required a production capacity many times that of America's aviation industry. So it invited thousands of manufacturers in many fields to "team up" in the vast program of making America *first* in the air.

Kollsman joined in this effort by "schooling" over a score of manufacturers in the difficult techniques of building complete Kollsman aircraft instruments.

Kollsman immediately threw open its facilities to the engineers of coöperating plants. Step by step, Kollsman engineers revealed to them in minute detail the intricate techniques of mass-producing these vital precision products. And then they frequently went into those plants and helped work out production . . . and kept at it until the last "bug" was ironed out.

It isn't easy to build instruments that meet Kollsman specifications. But our "team" is doing just that . . . and in ever-increasing volume. While this work goes forward, Kollsman is busy at the task of developing aircraft instruments to meet new flight problems.

THE KOLLSMAN 50,000 FT. SENSITIVE ALTIMETER is so ingeniously geared that a diaphragm expansion of only three-sixteenths of an inch sends the pointer around the dial 50 times! Capable of measuring altitude to within a few feet, its essential parts are finished to within two ten-thousandths of an inch.



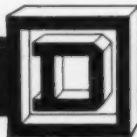
KOLLSMAN AIRCRAFT INSTRUMENTS

PRODUCT OF

SQUARE D COMPANY

ELMHURST, NEW YORK

• GLENDALE, CALIFORNIA





THE WORLD'S DELICACIES TO YOU

In the tomorrow that is nearly today, your typical dinner may include Mediterranean oysters, Guatemalan fruit, Alaskan celery—all fresh! Everything is in season somewhere on the Globe—less than three air-cargo days away.

W. W. Braniff
PRESIDENT

BRANIFF

Airways



Chicago, Burlington, Kansas City, Wichita, Ponca City, Oklahoma City, Dallas, Ft. Worth, Houston, Galveston, Amarillo, Wichita Falls, Waco, Austin, San Antonio, Laredo, Corpus Christi, Brownsville, Denver, Pueblo, Colorado Springs.

Pogue Predicts Large Cuts in Postwar Air Traffic Rates

SUBSTANTIAL CUTS IN POSTWAR air traffic rates—passenger and cargo—were predicted by L. Welch Pogue, chairman of the Civil Aeronautics Board, in a lecture Oct. 19 at McGill University, Montreal, Quebec.

The first 10 years after the war will see large increases in all types of traffic, the CAB chairman said, adding that both domestic and international air rates will be substantially under what they are now.

"In the U. S., the airplane will become the preferred common carrier for intercity travelers," Pogue said. "As aircraft and operating efficiency improve, rates will certainly drop from the present 5c a passenger-mile to 4c; there is every reason to believe they will continue their downward trend to a level of approximately 3 or possibly 2½c. This economy of travel will develop a volume of business and pleasure traffic that will require frequencies of service spaced only a few minutes apart between an increasingly large number of cities which will grow closer together in point of time.

"The direct benefits of air transportation will be extended to many comparatively small cities; there will be a growth of interest and traffic between them. This route expansion will contribute to the flow of travelers along the main lines; and the new regions which will be served will be the sources of increased foreign travel.

"I feel that it is a safe prediction that the present per capita overseas passenger traffic will be doubled within this 10-year period and that the airplane will ultimately carry the major portion of these travelers. This volume of traffic and the improvements in airplane performance promise to level present air rates almost immediately to about 7½c per passenger-mile; it is more than likely that they

will continue to decrease at a lesser rate to 5c and proceed more slowly to within a close range of 4c.

"All domestic and practically all international first-class mail will be carried by air. Air rates will be established for second-class mail, consisting of newspapers and magazines. An air parcel post will be created. The volume of mail will increase by reason of the development of new social and business relations between people with hundreds and thousands of miles but only a few hours between them.

Cargo Rates to Drop

"Air cargo will contribute to a more rapid development of now industrially inactive and remote areas. As we move into this era of development, it is reasonable to expect that domestic rates will be cut in half to 35 or 40c per ton-mile; that they will decrease comparatively gradually to around 15c a ton-mile; and that they will continue to press slowly downward. It is also probable that the revenue from air cargo will exceed that received from passengers. Transoceanic cargo rates will naturally tend to be slightly higher than domestic rates and the growth of traffic volume will be slower.

"The world-wide developments in air transportation will create new patterns of living. Travel for pleasure will be oftener and reach farther away from home; business travel will be more frequent to more distant markets. Social and business correspondence will follow the travelers. The interchange of goods will be between more remote regions. Airports will become the centers of intercity and international traffic. Provincialism will yield to the unifying influence of air transportation."

Progress

Has transportation progressed?

CAB Chairman L. Welch Pogue gave the following figures in his recent speech at McGill University, Montreal:

"A visitor to the United States, who traveled 10,430 miles between Dec. 24, 1838 and Jan. 14, 1840, gave a composite picture of the means of travel just prior to the opening of the modern travel era. He traveled 3,329 miles on steam-power railroads, 215 on horsepower railroads, 2,220 on steamboats upon rivers, 813 on steamboats upon lakes and the sea, 2,949 on stages and sleighs, 375 on canal boats, 136 on a sailing vessel, 293 in private conveyances, and 100 on foot and horseback.

"This itinerant was in a travel status for 1,835 hours—1,381 hours for travel and 454 hours for stoppages. His greatest average speed was 15 miles per hour on the steam-power railroads. Steamboats averaged nine and 10 miles per hour, canal boats three and nine-tenths, and sailing vessels two and one-half. Stages and sleighs averaged four and nine-tenths miles per hour. His average speed for his various modes of public transportation was seven and a half miles an hour for the time actually traveled, and 5.1 miles an hour for elapsed travel time. His actual travel time was 56 days. On the modern railroad, it might have been cut to seven days. The airplane would have reduced it to two and one-half days.

"Such has been the acceleration of transportation in the last century."

On Record Flight to Empire Air Conference



C. D. Howe, Canadian minister of munitions and supply; H. J. Symington, K. C., president of Trans-Canada Air Lines; and J. R. Baldwin, of the Privy Council Office, delegates to the Empire Air Conference in London, were passengers on a recent flight of a TCA-operated transport plane which established a new Montreal-to-Britain record of 11 hours, 56 minutes. Passengers and crew are shown just before takeoff, from left to right—Radio Officer A. J. Blackwood, Howe, Capt. M. B. Barclay, Symington, 2nd Capt. K. Edmison, Squadron Leader J. R. Gilmore, and Baldwin.

American Accident Studied by Board

The safety bureau of the Civil Aeronautics Board was conducting an investigation as this issue went to press to determine the probable cause of the accident of an American Airlines DC-3 near Nashville, Tenn., on Oct. 15.

Allen P. Bourden, chief of CAB's accident investigation section, was in charge of the investigation.

Four crew members and six passengers were killed in the accident. Crew members were Capt. Dale R. Dryer, First Officer W. J. Brand, Stewardess Margaret Jewell and Capt. Robert Gay, riding as fourth member of the crew.

C. & S. Registers Common

Chicago & Southern Air Lines has registered with the Securities and Exchange Commission 107,989 shares of common stock, no par value. Sixty thousand shares, which will be evidenced by voting trust certificates, will be offered to the public at a proposed maximum offering price not exceeding \$16 a share, or an aggregate of \$960,000. The 47,989 remaining shares have been registered for issuance pursuant to options at \$8 a share, an aggregate of \$383,912.



What is happening at Northrop today will help bring Victory sooner

WAY BACK IN 1930...there was an airplane called the Northrop "Alpha"... the first all-metal stressed-skin monoplane to embody the multicellular wing structure.

The "Alpha" is important to America. It ushered in the era of the modern low wing all-metal monoplane.

Thereafter, the Northrop group created the Northrop "Gamma"—first airplane with the now-familiar split trailing edge landing flaps. Faster, even more aerodynamically "clean" than the "Alpha", the Northrop "Gamma" set trans-continental air-mail records. With military modification, the "Gamma" became the world's first airplane to be used as an attack bomber.

This same Northrop group then built the Northrop 3A—pioneer pursuit plane flying over 300 miles per hour.

Later, the group designed and built the N3-PB patrol bomber—still the swiftest military sea-plane fighting on any front.

Such are some of the past achievements of the Northrop group—and that same group of Northrop talents is hard at work for America today. What is happening at Northrop cannot be fully discussed right now... but you may be confident of this:

Northrop aerodynamicists, production engineers and airplane-building craftsmen are turning out in production quantities new Northrop warplanes to carry on the tradition.

What can one individual do? Warplanes hatch from War Bonds. Buy more War Bonds every payday!



NORTHROP Aircraft, Inc.

NORTHROP FIELD, HAWTHORNE, CALIFORNIA
MEMBER AIRCRAFT WAR PRODUCTION COUNCIL, INC.

Nine years ago...



In 1934, the Northrop group designed and built the Northrop 3A, pioneer of fighters flying over 300 miles an hour. To this low wing pursuit with its clean lines, retractable landing gear, and split trailing edge landing flaps may be traced the ancestry of many of today's fighters.

Women in Air Transport



Myra Black

(This is the third of a series of articles on women who are doing an outstanding but little publicized job for the U. S. airlines.)

MYRA BLACK, one of the real old-timers in the airline business—one who has done an invaluable job but whose name seldom gets into print—took a well-deserved step up the ladder last fortnight as this story was written.

She was elected assistant secretary of Transcontinental and Western Air Inc., a signal honor and one given comparatively few women in the airline industry.

She has been with TWA for 12 years and, amazingly enough, has spent all of this time in Washington. Consequently, she has a thorough knowledge of the airline-government situation. In addition to being secretary to Vice President Clarence Fleming, she keeps track of route applications, pre-hearing conferences, hearings, oral arguments, decisions, etc. Officials of all branches of TWA who have business with government departments depend upon Miss Black. And this also goes for government officials who want to get in touch with people in TWA.

Born on a farm near Belmont, N. Y., her first job on graduating from William Smith College at Geneva, N. Y., was with the Aeronautical Chamber of Commerce in Washington. After five years at that post she resigned in January, 1931 and took a secretarial job with TWA. She has been with the airline ever since, even surviving the air mail cancellations. Thus, her entire career has been in aviation and she has been with it through its trials, tribulations, and triumphs.

More and More Air Mail

Increasing air mail correspondence between industries engaged in war production created a jump of 33% in mail ton-miles flown by United Air Lines during September, the company estimates. During the month, United flew 852,647 mail ton-miles as compared to 641,331 in the corresponding month of last year.

Airline Commentary

Want to know where there's an airline that has too much equipment? . . . Henry Pillichody, former manager of Swissair, the Swiss airline, was telling us that because of the war the company is only operating a 40-minute route between Zurich and Stuttgart . . . And the company has five DC-3s and three DC-2s . . . And it can't possibly use all of these on one trip a day. . .

Another funny thing happened in Switzerland . . . Mail in that country is forwarded by the first schedule available, whether it is plane or train . . . If, before the war, you were to mail a letter in Zurich at ordinary postage rates for delivery in Paris, the letter went by plane if that was the next carrier leaving, or by train if that was next, or vice versa . . . But, if you placed an air mail stamp on the letter, and the plane had just left, the letter waited for the next plane . . . In other words, it was smart to use ordinary postage because your letter probably went by air anyway, and even if it went by train it probably got there before the air mail letter, which was waiting for the next plane . . . It's a funny world . . .

We took a tour of Washington's only major airline base the other day—Pennsylvania Central Airlines . . . And it was an eye-opener . . . We'd been through the set-up before it was completed, but it seemed like they have twice as much space now as then . . . Their medical department, from what little we know about such things, seemed to be very complete . . . We were particularly interested in a gadget—and it's an insult to call it a gadget—for testing eyes . . . The darned thing does everything but curl your eyelashes . . . Then we went through the schoolrooms, shops, hangars . . . If you don't think the airlines are right in the middle of the war effort, a tour of PCA is recommended to dispel your doubts . . .

Two issues ago we suggested that the CAB's docket section be given some more space . . . About three days later, another room was added to the section . . . We're not quite cocky enough to believe that Chief Examiner Ed Leasure read this column and then rushed right out and dug up another room, but the coincidence made us look good, anyhow . . . Do you have a cause you'd like us to plug? . . . For a slight fee we will handle it . . .

This isn't exactly new, but we haven't seen it in print anywhere so we thought we'd mention it . . . Priorities have been tightened up . . . If you have a priority you must establish it with the airline at least an hour and a half before departure in order to remove a non-priority passenger . . . This move should be welcomed . . . We're the first ones to urge that priority passengers on legitimate war business should be given first consideration, but in 99 cases out of a hundred these passengers surely know an hour and a half before departure that they have a trip to make . . . And for this reason, the rule seems fair, and not only gives a break to the guy who has had a reservation for six weeks, but eliminates removal of passengers who have made the limousine trip to the airport on the assurance that they had space . . .

It's no military secret that there are quite a few barrage balloons around the coast of England . . . Some of the airline boys now flying for the Air Transport Command believe the balloons have been up there so long that the islands will sink when they take them down . . .

Have you heard the story of how Raymond Loewy came to Washington? . . . Mr. Loewy, it seems, had quite a bit to do with Greyhound Corp.'s helicopter plans, and he came to testify at the CAB's feeder-pickup hearing . . . He went to the Departmental Auditorium, where sessions had been held, but a guard told him that the hearing was in the Post Office Dept. . . . Rushing over to the PO, Mr. Loewy, so the story goes, got himself all sworn in and then discovered he was smackdab in the middle of the wrong hearing . . . He was in the hearing at which the PO was to decide if Esquire Magazine's Varga girl drawings were of such nature as to keep the magazine out of the mails . . . Helicopters were definitely out of order—more interesting things were being discussed . . . Well, Mr. Loewy, we are happy to report, finally found the right hearing . . . It could only happen in Washington . . .

We haven't received any announcement from the company on this—and hope we're not jumping the gun—but it seems that Eastern Air Lines is training some stewardesses . . . EAL, as you know, has used stewards . . . Looks like the manpower shortage is getting acute . . .

Eric Bramley



Engineered for the Job!

One reason why so many aircraft manufacturers put their landing gear problems up to Bendix is the Bendix policy of "engineering for the job." Whether the assignment is a tail strut for a trainer, or massive main struts for the heaviest bomber, Bendix designers study carefully all requirements of the plane and develop whatever adaptations of Bendix* Landing Gear are necessary to insure efficient performance.

The basic advantages of Bendix* Pneudraulic Shock Struts, Wheels, Brakes and Hydraulic Master Cylinders have been proved under all conditions of service, from the arctic to the equator and on all types of terrain, from frozen tundras to steaming jungle mud.

Why not benefit from Bendix diversified experience and practical methods of operation when you plan the landing gear for your planes?

BENDIX* LANDING GEAR

Bendix-Pneudraulic* Shock Struts, Bendix Airplane Wheels, Airplane Brakes, Hydraulic Master Cylinders, Pilot Seats and Power Brake Valves are important members of "The Invisible Crew" of precision equipment which Bendix Plants from coast to coast are speeding to world battle fronts.

*Trademark of Bendix Aviation Corporation

BENDIX PRODUCTS DIVISION
Bendix Aviation Corporation • South Bend, Indiana

THE INVISIBLE CREW

Precision

Equipment by

Bendix
AVIATION CORPORATION

Col. Hart Handles ATC Public Relations

Lt. Col. Charles Hart has been named public relations counsel by the Joint National Advertising Committee of the Air Traffic Conference of ATA, and has opened offices at 521 5th Ave., New York.

Last May ATA decided that "in the interests of obtaining the maximum public recognition of the industry's joint national advertising campaign and for the purpose of securing the widest possible publicity in the promotion of airline sales and traffic, there be employed by the Air Transport Association a traffic and sales publicity director . . . The funds for such purpose be provided from the annual advertising budget and that \$25,000 be appropriated for this purpose for the rest of the year, ending Dec. 31, 1943."

Col. Hart joined the War Dept. Bureau of Public Relations two years ago and organized the Army War Show. He at one time handled the "Keep 'Em Flying" campaign for the Army. He is no longer on active duty, having completed his duties. Col. Hart was former president of the Bureau of Public Relations, New York, and has handled publicity for the Grand Lodge of Elks.

Hinckley Advocates Flight Training in High Schools

Flight instruction must be offered in high schools if America is to condition its youth for the air, Robert H. Hinckley, assistant to the president of the Sperry Corporation, pointed out in a recent address at Ogden, Utah. Hinckley spoke at the dedication of Ogden's new \$900,000 air terminal, which has been named Robert H. Hinckley Airport.



Hinckley

"Just as we do not question the cost of education, other nations will not question the cost of aviation," he said. "It is a case of fly or die. Becoming a nation of fliers is the surest way to keep the peace. For a nation of fliers will keep the great aircraft manufacturing plants from disintegrating. A nation of fliers will keep employment in all other industries at a high level."

Hinckley asserted that aviation will win the war, and will insure the peace if pilot training continues after the war.

CAA Publishes Pilots' Guide

A booklet entitled, "Pilot Written Examinations Guidebook" has been published by the Civil Aeronautics Administration. The booklet sets forth the procedures to be followed in making application for the various examinations, with an outline of the material covered and a bibliography of reference material. The booklet is free and may be obtained from any CAA Inspector or CAA office.

CAB Monthly Report On Domestic Air Carriers

The Civil Aeronautics Board announces that the net operating revenue in June for the 18 domestic air carriers, including All American Aviation, Inc., and Hawaiian Airlines, reached a total of \$2,916,289 which is an increase of \$689,359 over the same period last year. Additional figures covering operating expenses and revenues for the month of June, 1943 follow:

	June 1943	June 1942
Revenue Miles Flown	8,542,686	7,496,665
Operating Revenues		
Passenger	\$7,814,275	\$5,264,904
Mail	2,107,273	1,846,585
Express & Freight	733,721	644,720
All Other	338,723	350,212
Total	\$10,993,992	\$7,906,421
Operating Expenses	\$8,077,703	\$5,679,491
Net Operating Revenue	\$2,916,289	\$2,226,930

For the year ending June 30, 1943, the net operating revenue for all domestic airlines was \$31,728,048 as compared with \$14,326,348 for the year ending June 30, 1942. Express and freight revenues showed an increase from \$4,397,227 to \$8,446,614. Additional figures covering operating expenses and revenues for the year ending June 30, 1943 follow:

	12 Months Ending June 1943	June 1942
Revenue Miles Flown	97,983,576	135,008,879
Operating Revenues		
Passenger	\$78,864,470	\$76,214,696
Mail	23,775,580	23,819,456
Express & Freight	8,446,615	4,397,227
All Other	2,976,933	2,658,998
Total	\$114,043,598	\$107,090,377
Operating expenses	\$82,315,550	\$92,764,029
Net Operating Revenue	\$31,728,048	\$14,326,348

H. R. Bazley Again Heads All American Aviation, Inc.

Halsey R. Bazley was re-elected president of All American Aviation, Inc., operators of the Air Pick-up system, at the annual meeting of the board of directors of the company. Other officers who were reelected were: Harry R. Stringer, vice president—traffic; Charles W. Wendt, vice president—treasurer; Harry S. Fries, assistant treasurer; Walter C. Gebelein, comptroller, and Austin M. Zimmerman, secretary and general counsel.

Dr. Edward E. Minor, Jr. was elected a vice president and will head a newly created manufacturing and developmental division of the company. Before joining All American, Dr. Minor was development and design engineer with the Glenn L. Martin Co. He was chairman of the American Institute of Electrical Engineers from 1940 to 1942, is a member of the subcommittee on aircraft electrical equipment standardization of the Society of Automotive Engineers and is a member of the executive committee of the Maryland section of the AIEE.

Airline Personnel



McGrath



Keogh

E. A. Keogh has been named auditor of property for United Air Lines and will head a new department operating within the company's treasury department in Chicago.

C. H. "Cal" Calhoun, former assistant superintendent of maintenance for Transcontinental & Western Air at Kansas City, has been named superintendent of maintenance for Mid-Continent Airlines.

National Airlines announces that Jerry D. Outman, formerly Jacksonville, Fla., station manager, has been promoted to superintendent of passenger service there; Murray T. Jackson has been appointed Miami city traffic manager; George P. Dane has been named DTM and superintendent of reservations for the entire line with headquarters in Miami.

Walter W. Coyle, formerly district traffic manager at Philadelphia for Transcontinental and Western Air, has been named manager of the new midwest region of TWA with headquarters in Kansas City. J. E. Hawthorne, DTM for TWA at Los Angeles, has been appointed to the newly-created position of assistant Eastern region traffic manager with headquarters at Pittsburgh. Ralph L. Butcher, formerly manager of aviation accounts for TWA at Los Angeles, succeeds Hawthorne at L.A. J. D. Harrigan, traffic training supervisor at Kansas City, has moved up to the new TWA post of assistant Central region manager for the Dayton - Cincinnati - Columbus area of Ohio. W. F. McGrath, has assumed the position of superintendent of traffic at Kansas City.



Harrigan

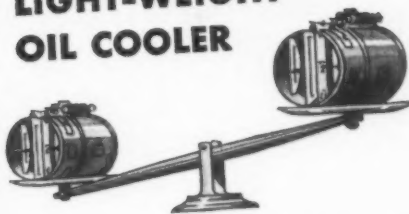


Outman



AiResearch "FIRSTS" IN OIL COOLING

LIGHT-WEIGHT OIL COOLER



AiResearch pioneered two weight-reducing developments: An especially sturdy light metal construction and new designs giving greater cooling efficiency per square foot.

AUTOMATIC EXIT FLAP CONTROL

for air ducts. Completely eliminating manual operation and cutting open-flap time considerably, this AiResearch-developed system reduces cooling drag... adds speed. It helps forestall congealing... adds safety to American warplanes.

AUTOMATIC SHUTTER CONTROL

AiResearch helped perfect the temperature and pressure-measuring devices that automatically regulate shutter positions—controlling the flow of air through the cooler according to the condition of the oil. And was first to produce these improved oil coolers in volume!

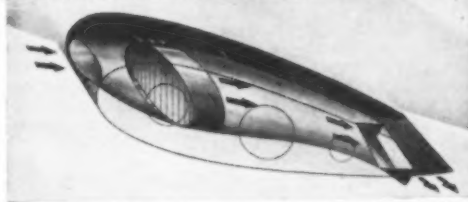


ANTI-CONGEALING COOLER



Many hundreds of oil cooler designs and control systems have been tested in AiResearch laboratories. From these experiments have recently come a new principle of "surge-protection". And an oil cooler that resists congealing—even in the most extreme high-altitude colds.

ELLIPTICAL DESIGN COOLER



AiResearch now has this "oil cooler that couldn't be built" in volume production. It is making possible greater freedom of aircraft design...simplified installation...important savings in weight and space.

AIRESEARCH engineering has made scores of other contributions to oil cooling. Still more are coming. For the improvement of heat transfer and pressure control systems is a never-ending project here. Inquiries from aircraft manufacturers and designers on newest AiResearch developments are invited.



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The Dramatic Story of Man Conquering the Air as Told in 36 Authentic Aviation Fiction Stories... From Icarus to the Flying Fortress

This Winged World

The FIRST Anthology of Aviation Fiction

In eight comprehensive sections, the thrilling, informative story of flying unfolds.

WINGS OF THE GODS—Stories from the age of mythology.

DREAM OF WINGS—Stories from the age of speculation and fantasy.

YOUNG WINGS—Stories of the first, fascinating years after the Wright brothers made history at Kitty Hawk.

WAR WINGS—Stories of the airplane in World War I.

WORKING WINGS—Stories of the early struggle of the airplane working out its destiny in the air mail and in scheduled air passenger transportation.

WINGS OF ADVENTURE—Stories of the airplane engaged in high adventure, early trans-oceanic flights, and air races.

MYSTICAL WINGS—Stories of the airplane interwoven in plots involving the mystical and the occult.

WAR WINGS OF THE AIR AGE—Stories of the airplane today, girded once more for combat in World War II.

THIS WINGED WORLD is an arrangement of stories, written by masters of narrative literature, ranging from Samuel Johnson, Edgar Allen Poe, H. G. Wells, Wallace Irwin, Sinclair Lewis, Sir Arthur Conan Doyle, James Warner Bellah, Elliott White Springs, Leland Jamieson, and Paul Gallico.

THIS WINGED WORLD was arranged and edited by Thomas Collison, the aviation writer, whose preface—*Reconnaissance*—sets the tone for the book.

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Please rush me a copy of This Winged World at \$3.50. () Check enclosed () Send C.O.D.

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CAB Orders Affecting Air Carriers

Sept. 1 to Oct. 21

Order No. 2424: Authorized Transcontinental & Western Air, Inc. to engage in air transportation, with respect to persons and property only, to and from Palm Springs, Calif., as an additional intermediate point on Route No. 2; such transportation shall be limited to members of the armed forces of the United States and of the Allied Nations.

Order No. 2427: Docket 979: Denied petition of Pennsylvania-Central Airlines Corporation for reconsideration of Order No. 2414 re. service between Washington, D. C. and Boston, Mass.

Order No. 2428: Severed application of New England Airlines, Inc. (Docket 692) from the proceeding re. applications of certain airlines for certificates and for amendments of certificates of public convenience and necessity under Sec. 401, and for approval of control under Sec. 408 of the Civil Aeronautics Act of 1938; granted petition of Howard S. Palmer, James L. Loomis, and Henry B. Sawyer to intervene in the proceeding.

Order No. 2429: Approved agreement (Contract CAB No. 243) filed under Sec. 412 (a) of the Act by and between American Airlines, Inc. and American Airlines de Mexico, S. A. relating to the purchase and use of airway and ground facilities and employment and use of personnel in the Republic of Mexico.

Order No. 2430: Approved agreement (Contract CAB 256) filed under Sec. 412 (a) of the Act by the between certain lines, relating to Air Cargo, Inc.

Order No. 2431, Dockets 556, 562: Denied motion of Northeast Airlines to intervene in the matter of the applications of Boston and Maine Railroad and Maine Central Railroad Company.

Order No. 2432: Approved agreements by and between certain airlines relating to standard inter-line reservations procedure. (Contracts CAB Nos. 245 and 245A.)

Order No. 2433, Dockets 314, et al.: Authorized inauguration of service by Transcontinental & Western Air, Inc. to and from Los Angeles, Calif. (Route No. 37) pursuant to Order No. 2409.

Order No. 2435: Severed and dismissed application of Transcontinental & Western Air, Inc. for approval of control of TWA-New England, Inc., under Sec. 408 of the Civil Aeronautics Act of 1938, Docket No. 908.

Order No. 2436, Docket 979: Denied petition of Pennsylvania-Central Airlines Corporation requesting oral argument before the Board on the consolidation of Docket No. 979 with the consolidated proceeding in Docket No. 13-401-B-1, et al.

Order No. 2440, Dockets 445, et al.: Amended certificate of public convenience and necessity authorizing Eastern Air Lines, Inc. to engage in certain air transportation subject to certain provisions; consolidated for purpose of decision certain Dockets in the matter of the application of Eastern Air Lines, Inc. and Pennsylvania-Central Airlines Corporation; deferred action on the applications of Colonial Airlines, Inc., Eastern Air Lines, Inc., National Airlines, Inc. and Seaboard Airways, Inc., and that portion of Pennsylvania-Central Airlines Corporation's application requesting authority to conduct operations between certain points. (Opinion and order.)

Order No. 2441, Docket 319: Amended Order No. 2136 to provide that the date upon which the divestment plan must be submitted to the Board for its approval by American Export Airlines, Inc. and American Export Lines, Inc., is extended to October 25, 1944.

Series 286: Promulgated Sec. 251.2 of the Economic Regulations concerning Agreements between Air Carriers and Foreign Countries.

Order No. 2442, Docket 814: Further amended Order No. 2096 by authorizing Eastern Air Lines, Inc. to suspend service temporarily at Baton Rouge, La., until Oct. 28, 1943.

Order No. 2443, Dockets 514, et al.: Consolidated for public hearing certain dockets in the matter of the applications of Transcontinental & Western Air, Inc., Braniff Airways, Inc. and Continental Air Lines, Inc. re. certificates of public convenience and necessity; denied inclusion of a certain part of Continental's application.

Order No. 2444: Permitted immediate inauguration of non-stop service by Transcontinental & Western Air, Inc. between Las Vegas, Nevada and Winslow, Arizona on Route No. 37.

Order No. 2446, Docket 588: Dismissed application of Pan American Airways, Inc. re. determination of whether the acquisition of a minority interest in Aerovias de Guatemala, S. A. is a transaction subject to Section 408 of the Civil Aeronautics Act of 1938.

Order No. 2450, Docket 854: Approved application of United Air Lines Transport Corporation re. acquisition of control of Lineas Aeras Mineras, S. A.

Order No. 2451, Dockets 398, 599: Assigned for public hearing and consolidated into one proceeding applications of Pennsylvania-Central Airlines Corporation for amendment to its certificates of public convenience and necessity.

Order No. 2452, Docket 782: Denied petition of Eastern Air Lines, Inc. for consolidation of application for a certificate of public convenience and necessity with the proceeding to determine whether the certificate now held by them should be altered, amended, and modified.

Order No. 2453, Dockets 226, 555: Authorized inauguration of service by Transcontinental & Western Air, Inc. at the intermediate point Phoenix, Ariz., on Route No. 2.

Order No. 2457, Dockets 514, et al.: Granted permission to Mid-Continent Airlines, Inc. to intervene in the matter of the applications of certain airlines for certificates and amendment of certificates of public convenience and necessity.

Order No. 2458, Docket 755: Dismissed petition of Mid-Continent Airlines, Inc. re. compensation for the transportation of mail over Routes Nos. 26 and 48.

Order No. 2464, Docket 850: Severed proceeding of Braniff Airways, Inc., Delta Air Corporation, and National Airlines, Inc., from the proceedings of Chicago and Southern Air Lines, Inc. and Pennsylvania-Central Airlines Corporation in the matter of the rates, fares and charges for the transportation of passengers.

Order No. 2469, Docket 585: Further amended certificate of public convenience and necessity issued to Transcontinental & Western Air, Inc. so as to include Columbia, Mo., as an intermediate point between the intermediate points St. Louis, Mo., and Kansas City, Mo. (Route No. 2). (Opinion and Order.)

2472 Dockets 314, et al.: Denied petition of United Air Lines Transport Corporation for reargument and reconsideration of Orders Nos. 2268 and 2409.

Order No. 2473: Withheld from publication exhibits and testimony in the matter of the applications of certain airlines for certificates and for amendments of certificates of public convenience and necessity under Sec. 401, and for approval of control under Sec. 408 of the Civil Aeronautics Act of 1938.

2474, Docket 573: Granted permission to Pennsylvania-Central Airlines Corporation to intervene in the matter of the application of American Airlines, Inc. for amendment of certificate of public convenience and necessity under Sec. 401 of the Civil Aeronautics Act of 1938.

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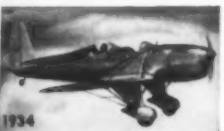
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1923
RYAN-STANDARD cabin plane;
pioneer passenger airliner.



1925
RYAN BLUEBIRD, cabin monoplane,
forerunner of "Spirit of St. Louis"



1934
RYAN S-T metal-fuselaged primary
trainer, led trend to low-wing types.



RYAN S-C, cabin plane for private-
owner use, featured all-metal
construction.



1939
RYAN STM, first low-wing primary
trainer types (PT-16 and PT-20)
used by Army.



RYAN STM-S2 seaplane, exported
for training Naval pilots.



RYAN PT-25, superbly engineered
plastic-bonded plywood trainer.

Earth-Bound No Longer

**YOUNG HAWKS OF CHINA'S GROWING AIR FORCE
FIND THEIR WINGS IN RYAN PLANES**

Today the eyes of young China are in the sky. Chinese air cadets are now on an even footing with the flyers of other nations.

Ryan is proud of the part played in this by its military trainer airplanes. These sleek, highly maneuverable planes—similar to the Ryans in which American Army pilots get their first training—are being used in China, not only for primary training, but also for basic and transitional instruction.

Since 1940 Ryans have been reliable "work-horses" for the growing Chinese Air Force. Here, as elsewhere, Ryan planes in military service have proved

that RYAN BUILDS WELL.

Ryan's current activities include the engineering, development and manufacture of the most advanced type combat airplanes for the armed services of our country, detailed information regarding which is restricted.

"ESSENTIAL POINTS IN POST-WAR AVIATION." A comprehensive, but realistic, interview with T. Claude Ryan, President of Ryan Aeronautical Company, is now being published under the above title. A man who has been making airplanes for 20 years, gets down to the basic consideration in aviation following the war—one which will affect all business. A copy gladly sent at your request.



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Ryan construction, proven in aviation's pioneer days, now proven in war, will tomorrow produce safer, more useful peacetime aircraft.



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Ryan School of Aeronautics, famous peacetime air school, now training fine U.S. Army pilots, follows one creed: Thoroughness.



RYAN PLANS WELL

Modern engineering + flying experience. Typical result: Ryan exhaust manifold systems are now used on the finest planes of other manufacturers.

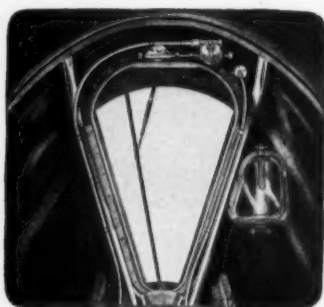
RYAN AERONAUTICAL COMPANY, SAN DIEGO—MEMBER, AIRCRAFT WAR PRODUCTION COUNCIL, INC.

Ryan Products: Army PT-22s; Navy NR-1s; Army PT-25s; S-T Commercial and Military Trainers; Exhaust Manifold Systems and Bomber Assemblies

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Days of careful preparation—split seconds over the target. Planned results must be accomplished even in rain and sleet . . . the Marquette Bombardier Wiper helps the bombardier keep his date.

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Feeder Hearing

(Continued from page 21)

lines of travel. "We found if that market was to be served it was necessary to convert radial routes of the market area system into a system of longitudinal intercity routes. Indeed many of us found that our bus operations did not become profitable until this change from the radial area was made," Hill said.

The witness disclosed that the experience in handling local traffic had demonstrated there are four requirements which the local traveler demands be fulfilled: (1) accessibility of the service; (2) schedule frequency and dependability; (3) speed and (4) economy. Hill listed the prime requisite of a local transportation service to be the accessibility of the service to the patron. "The field of service, however, within which air transportation can meet the demands of local travel, will be greatly circumscribed if it is necessary to continue to operate air terminals at relatively long distances from which the passengers wish to start and to which they wish to go," he declared.

Sees Joint Operation

Greyhound Corp., proposes to use the helicopter in an integrated operation with its present extensive bus service. The same terminals, ticket offices and garages would be used. Economies of this joint operation, Hill contended, would enable the company to operate air service without government subsidy. Based on a prospective fee of 5c a passenger mile, with mail carried at a rate of 4/10th mills per pound mile and other cargo at the same rate, Hill contended the operation would pay out at the rate of .0146c per mile under average conditions and 0.1816c per mile under optimum conditions.

The helicopter operations as proposed by Greyhound would offer maximum advantages for trips from 50 to 250 miles. Hill suggested that if equipment could be obtained without conflicting with war requirements, that two experimental routes be set up—one between Washington, D. C., and Roanoke, Va., and the other between Detroit, Flint and Bay City, Mich.

Hill pointed out that economies of operation that have made buses the most inexpensive form of public intercity transportation would be available in local air service. He added that in the period of 10 years prior to the war, the rate of fare per passenger on intercity buses had been reduced from 2.4c to 1.4c per mile although operating costs had increased 35% and the investment per bus had nearly trebled.

John R. Turney, Washington counsel for Greyhound, and Robert Driscoll, general counsel for Greyhound, handled the presentation of Greyhound's case.

In a sampling of travel habits and attitudes of the American public made recently on the basis of travel in 1941 it was found that 11% of 9,119 persons interviewed expressed an unqualified interest in the helicopter as a mode of transportation, Elmo Roper, New York Marketing Consultant, testified as a Greyhound witness.

The hearings had been resumed Oct. 11 following a recess from Oct. 7. Uncertificated applicants, many of them

with direct and indirect connections with the aviation industry, offered their testimony and exhibits with reference to postwar expansion.

Many of these witnesses were representatives of air pilot training schools whose talents and facilities are now being used in the training of Army pilots. All of these witnesses felt that the personnel and facilities of these schools could be employed as a nucleus for inaugurating a local feeder service in trade areas contiguous to large population centers.

Among these witnesses was James G. Ray, vice president of Southwest Airways Co., of Phoenix, Ariz. Ray was formerly vice president in charge of operations for All American Aviation, Inc.—pioneer in the airmail pickup field. Ray said he felt that certificates for local, feeder and pickup services should not go to existing trunk line carriers. He advocated an airmail rate of possibly 1 or 1½ mills per pound mile until these area airlines could become self sustaining—a fact which he felt would be accomplished in a relatively short time.

He pointed out that Southwest Airways is now operating under contract with the Army in transporting cargo from big Army airport terminals to various smaller depots throughout the southwest. He termed these as strictly a feeder type service and said his company had gained considerable knowledge and experience through these operations. Ray envisioned, through the Area type of operation, air transportation to every town and community in the United States. A "fly all the way" service, linking smaller communities with the big air terminals, was one of the advantages which he predicted would accrue from this type of operation.

Large Potential

"The smaller communities offer a large potential in short haul passenger traffic if we can tap it," Ray said. He pointed out that studies made by his company revealed the short haul characteristics of passenger traffic. Many small communities, he related, have not generated a considerable amount of air traffic because transcontinental schedules were either too infrequent or flights passed through smaller towns at such hours as not to be attractive to the traveling public. Two of the studies showed, according to Ray, that of the 2,177 passengers originating in San Diego, 1,459 or 67% were destined to go only to Los Angeles. Of 307 generated at Bakersfield, 245 or 80% left the planes in either Los Angeles or San Francisco. Ray predicted that air travel would increase 300% between 1940 and 1945 and another 200% between 1945 to 1950. He said these figures were conservative if compared with the report of the National Resources Planning Board which predicted a seven-fold increase.

Walter Roche, secretary and counsel of Southwest Airways, was also present at the hearing and questioned Ray concerning various phases of his company's plans. The company has applications on file with CAB for 11 feeder routes in the California, Washington and Oregon area, 20 in Texas centering around the Ft. Worth

(Turn to page 70)

TRANSPORT SKY LINES

by C. Bedell Monro

President, Pennsylvania-Central Airlines

★ ★ ★



PREPARING A NEW WORLD FOR OUR MEN AT WAR...

The men who are fighting the war today do not want work relief or government handouts when they come back. They want jobs and homes and security... all the things that they have given up.

For their sakes, our greatest single responsibility, apart from our unswerving efforts to produce for Victory, is to plan now to win the peace at home!

All airlines today are working on war contracts. In converting to peacetime operation, we must go far beyond pre-war levels of activity—if we are to supply jobs for employees in the services, and for present employees in both military and commercial operations.

Even that is only one step in the solution of our post-war problems, because it only takes care of former and present airline employees.



To absorb the thousands of trained technicians, pilots, mechanics, radio operators and other young men trained by war in aviation skills, an over-all but regulated expansion will be needed, with new routes and new types of services ready to go into effect as our soldiers are demobilized.

This cannot be accomplished by government ownership, by cartels or monopolies. It can only be done by free enterprise and competitive growth.

Furthermore, it can only be done if three dangers are eliminated: (1) Foreign monopolies that would limit our expansion; (2) monopoly by surface carriers, which would chain our airlines; (3) unfair competition from destructive mushroom growths, without adequate federal control and regulation.

There is still need for long-range planning—in aviation, in any form of economic activity.

But our immediate problem is planning for the day when our fighting men come back from war. We must prepare now to create the air world to which our soldiers will return.



Pennsylvania-Central Airlines,
National Airport, Washington, D. C.

(Advertisement)

Feeder Hearing

(Continued from page 69)

gateway and several helicopter applications for the Los Angeles Metropolitan trade area.

Representing seven fixed-base operators, William A. Ong, of Kansas Aviation Co. and Ong Aircraft Co. suggested the possibility of forming a company composed of these various groups for the purpose of operating local and feeder lines from Omaha south of Lareda and possibly east from Minneapolis to the Atlantic seaboard.

Ong testified this could be done along trade area lines, with restrictions in the certificate prohibiting the new carrier from carrying passengers between the terminals of existing trunk line carriers in the area served. He said the fixed base operators would be similar to stockholders in the company, except that their airports, maintenance and repair facilities would be used in connection with the needs of the new system. He said this would make for overall economy of operations, would help these smaller companies in the postwar era and would contribute to an orderly expansion program in the "local" field. Other companies represented by Ong at the hearing were: Northeast Aeronautical Corp., Minneapolis; Iowa Airplane Co., Des Moines; Springfield Flying Service, Springfield, Mo.; P. T. Air Service Co., Hays, Kansas; Mahon Flying Service, Dodge City, Kans.; Roscoe-Turner Aeronautical Corp., Indianapolis and Aircraft Sales Co., Ft. Worth, Tex. He was assisted in the presentation of a brief by W. Haley Reed, counsel for a considerable group who are interested in postwar aviation development.

Speaking in behalf of purely pickup routes which his company—The Automatic Air Mail Inc., of Lost Nation, Iowa—has on file with CAB, Louis P. Wolf told the Board his company had developed a ground catapulting device which has undergone successful tests in pickup operations. He cited the advantage this device would have over apparatus which is now carried aboard the pickup plane. The company would use this catapult if granted a certificate to serve routes in seven states in the western-central area, he stated.

A third witness was Russell W. Bartels, Secretary of Century Aviation Co., Wayne, Nebraska, who cited the need for at least airmail pickup service in areas where the isolation factor is very high. He said points in the west, with poor surface transport, needed the advantages of airmail services now, that express and passenger traffic could be developed later. He made a plea for the agricultural as well as business interests of an area in the vicinity of Wayne, Neb.

Another who endorsed using the personnel and facilities of fixed-base operators was Oliver L. Parks, head of Parks Air College, Inc., East St. Louis, Ill. Parks laid before the Board a comprehensive study of a hypothetical Local-Feeder-Pickup system embracing 600,000 square miles of territory, 800 miles wide and extending from Minneapolis and a point 300 miles north of Detroit to Dallas and Amarillo on the south and southwest.

The system included feeder-pickup routes emanating from five main bases, St. Louis, Chicago, Indianapolis, Kansas City and Tulsa. The central base of operations would be at St. Louis. The routes would average 450 miles in length and practically all towns of 4000 population or more would be served. The layout, according to Parks, follows the natural flow of traffic for that part of U. S. The first year would be devoted to airmail pickup and express exclusively but a combination pickup-passenger operation is contemplated after the company had conducted test operations to determine passenger psychological reactions to mail pickup at certain points of the route. Airmail pickup at night, under relaxed CAA regulations, is desired, Parks said.

Total operating costs, based on an initial investment of \$719,598 would amount to \$616,372 or 35c a plane mile. As this is an almost strictly airmail operation, this would be the cost to the government. Parks said the company's return, during the first year, would come from whatever express business could be developed. Joining with Parks Air College in the pre-

sentation of the study were: Missouri Institute of Aeronautics, Inc., Sikeston, Mo.; Cape Institute of Aeronautics, Inc., Cape Girardeau, Mo.; Mississippi Institute of Aeronautics Inc., Jackson, Miss., and Alabama Institute of Aeronautics, Inc., Tuscaloosa, Ala.

Parks said the companies submitting this study have over 1400 employees and no organization so large could be held together at its own expense until some indefinite future date when it might be decided they could be used in the air transport field. "It would therefore be of great advantage to the Board and to the public generally if it were possible to select now those companies who are to operate Local, Feeder, Pickup services."

Wiggins Presents Study

Another study, with accompanying charts and exhibits, was submitted by Joseph Garside, of Norwood, Mass., director of E. W. Wiggins Airways, Inc. This company proposes to operate in the New England area. Need of a local type of air transport was required, Garside emphasized, because existing surface and air transport is largely operated on a north and south basis, leaving many of the east-west areas off trade routes without adequate transportation. He said New England's trade routes had followed the river valleys which generally run north and south.

The Wiggins company is a fixed base operator which has engaged in charter service for 15 years. It now operates, like Parks Air College and several other route applications, Army pilot training schools. The company proposes to operate a pattern of routes between principal airline terminals and intermediate points now without air service. Annual cost of operating the hypothetical system of Wiggins company would be \$623,565 or 41c per revenue mile.

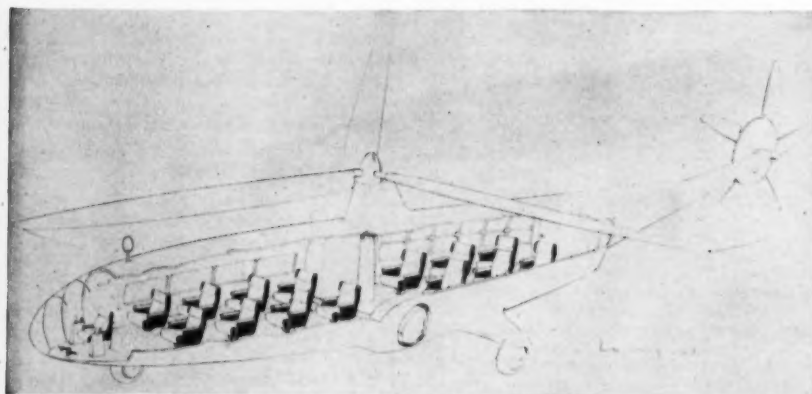
Another who appeared was Walter C. Miller, president of Philadelphia and Eastern Airlines, Inc., Lancaster, Pa., who suggested to the Board that local and feeder services be grouped in one classification and trunk line systems in another for the purpose of awarding certificates. Miller opposed granting existing carriers, both air and surface, the right to enter the local-feeder field. He said trunk line systems should be classified by a Board policy which set a minimum distance between stops which would leave local and feeder carriers to operate the routes involving shorter distances between stops.

Frederick Testifies

Dr. John H. Frederick, professor of Transportation and Industry, University of Texas, appearing for Southwest Feeder Airlines, Inc. recommended that CAB reverse its normal hearing procedures in connection with the feeder type of applications now on file.

Dr. Frederick recommended that the Board make its own independent investigation of a trade area first, then affirmatively state it was in the public interest that air service should be given to definite cities in the area, followed by a public notice requesting applications from companies desiring to serve the area.

(Turn to page 72)



Cutaway of Greyhound's Helicopter



FOREST PATROL!

Every day the CAP Forest Patrol assists the U. S. Forest Service and the National Park Service . . . flying over America's vast forests, guarding them from sabotage, accident, negligence and the ravages of nature.

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that cannot be seen by lookout towers until they become out of control. These blazes are reported while they are still one-man or two-man affairs.

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Feeder Hearing

(Continued from page 70)

C. Edward Leasure, Chief of CAB examiner, doubted whether the Board, under the terms of the CAB act and regulations, had the legal right to proceed in that order but suggested the same result might be accomplished if all applications affecting a definite area should be heard at the same time with the understanding that the Board could designate, if public convenience and necessity required, that additional points be added to an applicant's route if a certificate were to be granted.

2 Years for Survey

Raymond W. Stough, of the Board's Economic Bureau, asked how long it would take and how many people would be required to make such a survey of the country. Frederick replied: "About 2 years, and if you have the right people, because of your access to vital public information, five or six persons ought to be able to do the job." The witness stated the Board need not wait until the survey had been completed for the entire country, but that it might initiate its proceedings in a particular trade area when the public interest requirement was determined.

Examiner William J. Madden pointed out it would be difficult to designate a feeder area that is not crossed or crisscrossed by existing carriers. He wondered when the existing carrier should be permitted to enter the picture under Dr. Frederick's plan.

"Don't let the trunk line carriers in on the Board's investigation of the area's potential," Dr. Frederick replied. "They can come in with their proposals and recommendations at the time the hearing is held," he said.

In his statement, Dr. Frederick had said: "To pattern feeder airline hearings after those held in the past on trunk line applications for new routes would often result in voluminous duplication and multiple proof of convenience and necessity in a given area. This is peculiarly true of feeder routes because of the very large number of applications filed and to be filed."

Favors Local Companies

"We strongly feel that the best interests of the general public would be served by awarding certificates for local-feeder-pickup routes to local companies qualified to efficiently handle it," said James P. Wilmot, president of Page Airways, Inc., of Rochester, N. Y. "Existing carriers would, because of the nature of the pickup feeder services, be inclined to regard that service as an orphan. Any reductions considered necessary by existing carriers would in all probability be directed at the feeder or pickup routes first," he continued.

William Howard Payne, counsel for this same company, also submitted a statement urging the Board now to lay down broad policies which will help aviation to assume some of the unemployment problems which will arise after the war. He cited a recent publication entitled "Markets after the War," prepared under the direction of the Dept. of Commerce, which suggests that the Federal Government can do much to help solve postwar unemployment problems by planning with business for an orderly transition to peacetime production and development.

Two more pilots, both of whom recommended certain relaxations in pilot requirements and flight standards, also appeared. One of these was Capt. John Bogart, of Northwest Airlines, Inc. who testified as vice president and director of the Tri-State Aviation Corp. He argued for the independent carrier, urged lowering of certain flight standards with reference to combined passenger airmail pickup service, during day operations and expressed the hope the Board would take steps to obtain some Army equipment so certain phases of the program can be placed in operation either before or as soon as hostilities cease.

"I can't see any economic justification for the major airlines going into communities of less than 30,000 people," Capt. Bogart testified. Under questioning of John J. Quinn, assistant chief of the Board's Safety Rules and Education Division, Bogart said he felt single engine, one-pilot planes were sufficiently safe for daylight, airmail pickup operations even with passengers aboard.

Lower Ceiling Possible

Bogart felt that the 500-foot minimum ceiling in pickup operations is unnecessary. He felt a 200 or 300 minimum would be sufficient where the terrain was level and where pilots were flying over a regular course "which they probably learn to know as well as I know the interior of my office." He further felt that possibly 800 to 1,000 flying hours would be sufficient for pilot certification in day contact operations although he advocated that all pilots should have an instrument rating so they could "pull up and get home." He called attention to the fact that private pilots, with 200 hours, now carry passengers across the country in charter service and get them to their destination "a good percentage of the time."

The other pilot was Russell F. Holderman, chief pilot for Gannett Newspapers and operator and contractor for CAA. He expressed the view that independent operators of the fixed base type could operate the pickup and feeder lines more efficiently than the trunk line carrier.

At least three of the witnesses—one of them a regional carrier and the other two fixed base operators—suggested making the co-pilot in local feeder operations a "handy man" who would sell the tickets, look after the passengers, dispatch the mail and perform such other duties as might be required.

When Raymond W. Stough, the Board's Economic director, asked William A. Ong, one of the fixed base operators who would assign these duties to the co-pilot, whether this might not run counter to pilot association rules and thereby change Ong's cost estimates entirely, Ong replied: "If the gentleman feels it below his dignity as a co-pilot to throw out a sack of mail then I think we would have to do away with his service. Likewise I don't think we would anticipate any difficulty there because these co-pilots are anxious to get on the left side of the plane and are hardly in a position to be prima donnas with such a large number of pilots returning after the war." Ong had estimated the co-pilots pay at \$350 a month in his cost estimates.

S. G. Wright, of the Marion Trucking Co. Inc. Marion, Ind. advised the Board to give the certificates for local-feeder operations to independent operators. He said trunk line carriers, if they were permitted to enter the local field, might well follow in the footsteps of the large bus operators, whom he claimed had largely abandoned the local field for the more profitable long-haul operations. He said they had done this after buying out many of the smaller independent operators.

Janas Testifies

The last witness of the certified air carrier group was Sigmund Janas, president of Colonial Airlines, Inc. who contended that certificates of public convenience and necessity should not, with certain important exceptions related to military security, be issued for any route that will not be self-supporting. He said experience shows that operations over a given route cannot be self-supporting unless it affords relatively heavy passenger loads and that such passenger loads will be obtained only from relatively heavily populated terminals or from fairly heavily populated intermediate points.

"If these propositions are sound a great proportion of the applications for local and feeder services of the kind now under consideration will have to be denied. Further it will mean that a very large proportion of the smaller cities and communities in the United States cannot be awarded air service by certificated carriers. This is an unfortunate conclusion to have to face," Janas said.

Janas conceived that the only solution would be to provide such types and kinds of service to various communities as each can support or which can be rendered at a reasonable cost to the government. This, he said, entails recognition of and authorizing a type of service by a type of operator different from the present certificated carrier.

To provide such a service, Janas suggested designation of such classes of operators as limited-franchise operators. He added that if the Board recognized and classified these operators as such, a reasonable amount of service could be given promptly to zones which would include practically every community in the United States.

Hulse Files Statement

Southern Airways, Inc., of Birmingham, Ala. presented a statement toward the close of the hearing informing the Board it has under consideration the filing of applications for routes in the Southeast area of the United States. The statement was prepared by Frank W. Hulse, who said the frontier of domestic air transportation lies in the extension of air service to small communities, just as the frontier in 1920 was in the establishment of air mail service. Southern Airways is a fixed base operator with 1,400 employees, including more than 300 pilots.

Railroads too were represented in the final stages of the hearing. During his appearance in behalf of nine Western railroads, Thurman W. Van Metre, professor of transportation at Columbia University, testified that as the railroads are in most respects best fitted for the task they should be allowed to engage in local and feeder air services. He said the railroads are better able financially and from the standpoint of physical equipment and personnel to do the pioneering in such services by air.

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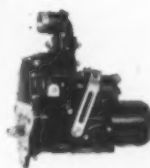
FIGHT TO THE FINISH

THE steel of this cam gleams like a mirror, as it gets its final buffing at the end of the production line. And it is not too fantastic that it should reflect the drama of battle in the skies. For those who work on Bendix-Scintilla* Aircraft Magnetos know well that this is a fight to the finish...even to the "finish" of a single steel surface.

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make our Vehicles of Victory stand out already as the Transports of Tomorrow. But the firing line is still the final test...of magnetos, as of men. And Bendix-Scintilla will carry on, unrelentingly, its own special "fight to the finish."



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TRADE MARK OF BENDIX AVIATION CORPORATION

Distributor's Place in Industry Studied

By E. J. FOLEY

THE ROLE OF THE DISTRIBUTOR in the aviation industry in the past has never been widely sought after nor electing to discuss the problem at what may seem to too well played. Its part in the postwar aviation drama can be so different in character and costume that an examination of the past and a reasonable prediction of the future should help to clear the air.



Foley

Our purpose in some "too early a date" is to avoid a too-little and too-late final answer. Those who would make their future in this phase of our business will not be the ones to decide *when* their future begins—any more than we shall; similarly, those who will use the services of the distributor must review the pros and cons of operating with such an agency before they find it knocking on their door for business.

It takes only a few words to bring us up to date on the distributor. Much to his disgust, we imagine, and surely through no fault of his own, he has had to content himself with bit parts in the past with few exceptions. This is almost as true today at the peak of aircraft production as it was in the valley of depression. This unfortunate consistency of stature in spite of tremendous variations in adjoining fields is not surprising, however. In the lean days, it was expedient, economical and even necessary for the buyer to go direct to the maker. The distributor who would be operating on less than a general-store type of inventory would have starved. Accordingly, in this stage of the game, the distributor who existed was nearly always at the airport, carried a comprehensive "hospital" stock, and was large or small in almost direct proportion to the scope of private aircraft operation at the field.

Mind you, we do not imply that this distributor was a thorn in the side of progress nor even a fifth wheel. We personally did enough business with them to know the truly vital part they played. The men who are making aviation history today, we are sure, will admit that their education, interest and safety were benefited by contact with these agencies. Yet it is generally conceded that their function was not so comprehensive as to include the "big businesses" of the aviation industry of that day.

Today aviation really has its big businesses and yet, the distributor who is solely so engaged may not be much more size-wise than he was before. The necessary present situation of one customer, the military, has stifled his development. It cannot and must not be otherwise; the most selfish distributor would not wish it changed. As a matter of fact, those who have the requisite facilities have shown

their complete selfless agreement by diverting their efforts to manufacturing—for that one customer.

But many are beginning their thoughts for the postwar period. The aviation industry appears to have a future somewhere between the past trough and the present crest. Two things—the contraction of aircraft manufacture from its wartime peak and the expansion of all air transportation from the short haul local domestic to the global network—combine to make the industry look for a generally higher business level in the postwar era than was experienced prior to World War II. Bereft of rose colored glasses, we visualize the situation still offering overall improvement.

As we see it, the distributor can carve a place for himself far more dominating than in the past. The expansion of this field of activity may be both horizontal and vertical. The horizontal growth implies volume; the vertical points toward a possible breakdown of the distributor function into two or more types. Two possibilities immediately come to mind: the general distributor who might be more properly termed "equipment and supplies dealer" doing business direct with the private flying public and the distributor whom we hope to see doing a good selling job to industry customers (of whom the airlines will be a major

part) and more important perhaps, doing more than selling.

As an aside to satisfy any of our readers who may be followers of the glib, global prediction school, so popular today, we can visualize, with extreme difficulty, the day of two helicopters in every garage—garages at this stage of our development will undoubtedly have roll-top roofs. That knock we hear at the garage door is the future's Fuller Brush man—door-to-door sale of rotor replacement parts, rib stitching cord and rivets. So far from reality, we can stop over at one of those gigantic, mid-ocean, floating seadromes; there to see the nautical distributor of navigation gear and new gadgets, attired in bell bottoms and gold braid cap, ready to go over the side in the event of an amateurish cross-wind landing.

Getting our feet back on the ground, we must analyze in greater detail the aforementioned two possible types of distributors. Space denies our carrying the breakdown farther to the full development of all potential types but we feel that these two will give a good general picture for planning. The "equipment and supplies dealer" may be a sales agent for either manufacturer or distributor, depending upon the specific item in question as well as the volume of sales of this item. His sales field will be the private flier class, as we see it, and his inventory will be as comprehensive as the trade warrants.

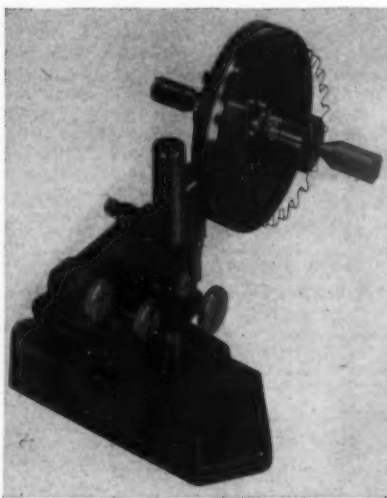
The other group we shall call distributors for lack of a better name at the moment. Their customers will be fixed base operators (if any pure practitioners remain in this field after the smoke clears away from the so-called feeder route situation); air transport operators, local, domestic and international; schools and quite possibly, dealers and even manufacturers in specific instances. Sales may be the distributor's prime objective or merely an adjunct. We make this statement because, as we have discussed in these columns some weeks ago, we foresee service, actual maintenance, by an independent agency as a development of the very near future, welcomed by the operators and a natural ally of sales, as a distributor function.

The distributor can be much more of a specialist than the dealer, if he chooses and while his location may be at the airport assuming ample facilities and the other essentials to sound, economical operation available there—it surely need not be. Regarding specialization, the distributor might elect power plants as his field. In such a case, sales and complete service of all the elements of the system—engines, propellers, engine-driven and electrical accessories, etc.—would seem appropriate.

Here, we may make the point that, to our way of thinking, the distributor should select a specific field for action. Upon such choice, he should, so far as possible, make his line all inclusive for that system or systems. We reason that only by so

(Turn to page 76)

Circular Division Tester



Picture shows the complete Circular Division Tester being introduced by the Engis Equipment Co., 210 S. Michigan Ave., Chicago. The instrument is suited for checking spacings in gears (as shown in outline), camshafts, splined shafts or index plates. Its portability also makes it applicable to dividing heads, indexing mechanisms and large pieces. Two units go to make up the instrument: a Master Circle Unit and a Microscope Unit. The Master Circle, in use, carries the part to be checked.

QUICKWORK-WHITING
Announces-

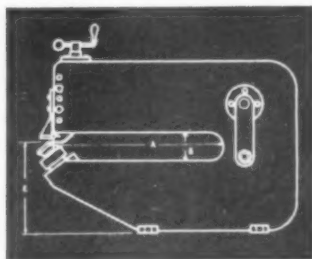


A NEW HAND-OPERATED ROTARY SHEAR

Here is a fast, accurate tool for trimming light sheets up to 16-gauge mild steel. Light-weight and operated by hand, this machine is readily installed and ready for operation by simply mounting to bench or mobile unit for portable use.

In design, this Model 06 has many distinct advantages. It incorporates the unique Quickwork shearing principle used in the large power operated Quickwork Rotary Shears. In spite of the fact that it has inclined plane cutter shafts, there are no projections beyond the upper cutter. Even the stripper may be removed to facilitate close work or for cutting on short radii. Deep throat, 18 in., permits handling of large sheets.

Power Equipment—Special Attachments—Information on special attachments or power equipment for use with the Model 06 is available on request.



Over-all dimensions: 24" x 30½" x 14".
The Quickwork Model 06 Rotary Shear
bolts to any bench or mobile worktable.
Deep 18" throat makes it possible to
handle wide sheets.



QUICKWORK-WHITING DIVISION

WHITING CORPORATION

15647 LATHROP AVENUE, HARVEY, ILL.

Foley

(Continued from page 74)

doing will he be equipped to assume the full, uninterrupted responsibility for any system service he may undertake.

The distributor will be a high-volume customer of the manufacturers of components or supplies pertinent to his line. His sales volume may well warrant his getting a manufacturer's price as good or better than that given to the airlines by the manufacturers in the pre-World War II period. This being the case and since all other things appear to be at least equal the case for the distributor looks like a strong one. Independent maintenance, if he chooses to provide it, and the possible technical consulting services for complete aircraft systems can further strengthen the distributor's role as the logical source for airline purchasing.

Certain commodities and supplies, by very nature, lend themselves to long-term, contractual supply agreements, and will, it is likely, continue to be bought and sold under such contracts.

We mentioned earlier that the dealer might also be a distributor customer. The considerations appropriate and necessary to such a relationship's success are quite apparent. If the distributor were acting as a maintenance agent, he might wish to offer the private trade the advantages of his servicing facilities through the dealer.

The final major customer of the distributor has been mentioned as the manufacturer. Past and normal practice would indicate that a manufacturer should buy from another manufacturer. However, emergency situations and special needs will influence this routine and it is to be expected that neighboring manufacturers will call upon the distributor for many items of standard lines.

In closing, we must deflate any enthusiasm that has been built up regarding the distributor's work as a bowl-of-cherries proposition. The customers are bound to be as they have always been, the most demanding in the business world with sound safety and economy reasons backing up their demands. The quality of service, in every sense of the word must equal or exceed the quality of the products sold.

There are many ramifications of this phase of the business which should be treated if space did not deny us expansion. We may have missed some high spots which you may feel are vital to a fair presentation of the picture. If so, we won't know about them unless you sound off. The value of our function, thought provocation leading to comprehensive planning, is limited to a purely personal slant unless you give us your ideas, your side of the story.

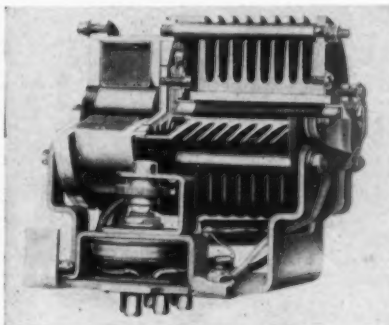
Bearing Cleaner

The Metal Washing Division of American Foundry Equipment Co., Mishawaka, Ind., working with an important instrument maker has developed this simple bearing cleaning unit for individual cleaning and oiling of the bearings without exposing them to room air or handling. The washer consists of a solvent container, a fractional H.P. pump for solvent, a solvent filter and the necessary bearing adapters.

Equipment News

Voltage Regulator

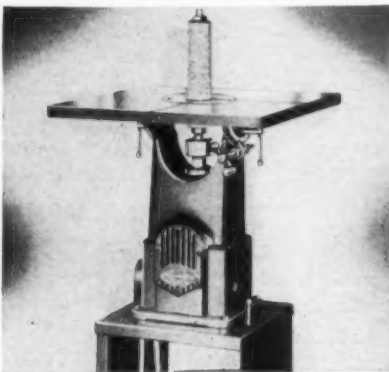
A new Type 1042 Carbon Pile Voltage Regulator has been developed by Eclipse-Pioneer Division, Bendix Aviation Corp., Teterboro, N. J. The 1042 is designed to control the voltage of 24 volt aircraft systems which use engine-driven generators in either single or parallel, main engine or auxiliary engine operation and rated from 1.5 to 6 kw. Since the carbon disc stack, making up the control, is under continuous pressure from the leaf springs, voltage regulation is not affected by normal conditions of vibration and the unit may be mounted in any position although it is preferred that the axis of the regulator be kept horizontal.



Voltage regulation will not be subject to more than 0.2 volt variation regardless of position. The elimination of contacts is said to assure a precision means of control without the hazards of contact burning, sticking, pitting or getting out of adjustment.

Oscillating Spindle Sander

Said to use the smallest diameter abrasive sleeve of any low priced machine, a new oscillating spindle sander is the product of Boice-Crane Co., 906 Central Ave., Toledo, O. It provides a full range of sizes: 3/4", 1 1/2", 2" and 3". Portable and vibrationless, according to its maker, it will sand any degree of bevel up to 6" in height. The sand drum oscillates automatically through a 7/8"



stroke, 83 complete strokes at 2500 rpm. The highly polished table, 20" by 20", tilts 45 degrees both ways and is geared for close setting. Two scribed index lines show exact positions for beveling, drafting patterns and for core-box work.

Plastic Handled Drill

The Aro Equipment Corp., Bryant, O., announces a pneumatic drill with plastic housing and handle. Said to be today's



lightest portable drill, weighing 1 lb. 12 oz., the unit operates at 2500 rpm and accommodates 1/8", 3/16", 1/4" or 5/16" drills with Jacobs chuck. It has full ball-bearing construction and a built-in visible oiler. Handle ribbing is said to assure a non-slip grip.

'Cam-Snap' Switch

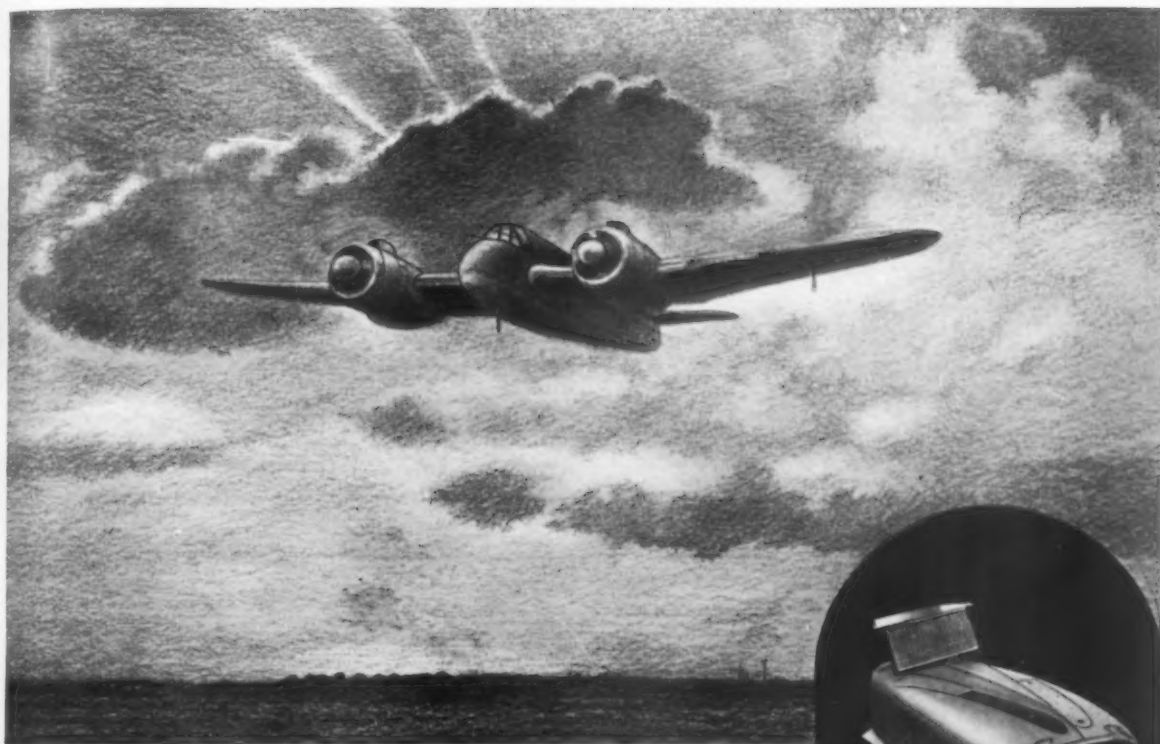
Known as a "Cam-Snap Rotary Tap Switch," a new aircraft selector switch has been perfected by the Paul Henry Co., Los Angeles, Cal. Under severe Bureau of Aeronautics tests, the unit, incorporating snap-action, is said to have far surpassed its normal life requirements. It is made with from one to four primary circuits and twelve secondary circuits thus providing wide latitude



of application. It appears to offer special advantage where sequence of operations is an important factor. Opening or closing of a circuit is accomplished within three or four degrees of cam motion. Conservative current rating for 50,000 operations is said to be 10 amps at 29 volts, inductive load. The unit in a fully enclosed case fits a standard instrument mounting and weighs 3 to 4 ounces. A screw driver is the only tool needed for disassembly; all terminals are screw type.

Hook Scraper in 2 Sizes

For burring sheet stock, a new hook scraper with a hand-protector shield is announced by Aircraft Tools, Inc., 750 E. Gage St., Los Angeles, Calif. The tool is made in two sizes to handle all weights of sheet metal.



NIGHT FIGHTER . . .

WONDERFUL organisation by brains behind the scene, initiative, skill and courage of gallant men and—this must not be overlooked—superlative performance by aircraft, all combine to establish the R.A.F. supremacy in the air night and day. There must be no “margin for error” in the performance of high powered aero-engines! They must give immediate response to the pilot’s demands, even under the terrific buffeting of battle conditions.

Even in the fiercest dog fight power and speed must be maintained. When engines are “fed” with air, oil and fuel oil free from impurities, they give of their best. That is why on night fighters, battle planes, indeed, all types of fighters, spotters, bombers, you will find Vokes Filters in operation. The 99.9 per cent. filtration efficiency claimed for Vokes Filters is not a mere laboratory test bench figure. Vokes Filters, we are proud to say, have proved their value to the fighting forces under the most gruelling battle conditions in the air and on land and sea.

TOP—VOKES AIR FILTER FOR AERO ENGINES.

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Stout Says Aviation Designers Surpass Automobile Industry's

WILLIAM B. STOUT, manager of Stout Research Division of the Consolidated-Vultee Aircraft Corp. believes that the aircraft industry is far ahead of the automobile industry in the matter of design.

Stout, in an interview with *American Aviation* in Los Angeles, expressed the belief that the aircraft industry today can design a better automobile than the automobile industry itself. The designer was in Los Angeles to attend the annual S.A.E. meeting on Oct. 5.

Criticizing the automotive industry for its engineering lethargy, Stout declared "There hasn't been a change in basic auto design for 15 years. The automobile industry knows production but not design. This is the direct opposite of the aircraft industry which is tops in engineering. From the roadable airplane will come new automobiles. It is not only feasible but highly probable for large aircraft companies to manufacture automobiles."

On several other aviation futures, Stout expressed definite opinions, after placing the growth of sincere public interest in aviation as the most startling thing about the industry today.

For the future private plane, he foresees a 1000 pound pusher type with all-round vision, 100 horsepower, 120 miles an hour, 20 miles to a gallon with a four hour gas supply.

The helicopter, as we know it is not the final form of direct lift craft. It is merely a step toward final perfection, according to the engineer who has his own designs for helicabs, Aerocars and Roadable Airplanes.

Magnesium, he discounts for fabrication as he does plywood. "Aluminum and stainless steel will be used, with improved plastics adapted to accessories and non-stressed parts of the aircraft."

Lockheed to Absorb Vega

Lockheed Aircraft Corp., which has owned Vega Aircraft Corp., for the past two years, will absorb the latter company about Nov. 30, it was announced Oct. 19 by Robert E. Gross and Courtlandt S. Gross, presidents of the two companies. The merger, according to a statement to the combined personnel of 90,000, "is simply a trend toward closer integration in operations of both companies, and has been contemplated for some time."

"It has been decided that, in the interests of closer cooperation and increased efficiency and economy, the merger—now—will bring into fullest possible use the best abilities of all of the people of both companies," said the statement.

As for gliders, Stout asserted "In my opinion, the glider is a complete phoney from start to finish. There is no economic justification for it in war or peace."

In the field of transport and cargo operation, he maintains that the plane of tomorrow must develop speed plus economy of operation in long-haul business. "The slow-flying plane is all-right for short hauls but it will be speed which revolutionizes travel and shipping habits."

Although Consolidated-Vultee has first call on any developments carried out by Stout and his staff, it does not mean the company takes any or all of the research projects, he explained.

Chapline Exonerated In Government's Suit Against Wright Corp.

Commander George F. Chapline, former vice president in charge of sales of Wright Aeronautical Corporation, Paterson, N. J., has been completely exonerated in the fraud suits instituted by the government July 10, 1943, against the corporation and certain of its officers. When facts were presented to the government counsel showing that Chapline had severed all connections with the corporation Nov. 12, 1940, and hence could have had no connection with the acts alleged in the complaints, the government readily consented to a motion for dismissal clearing his name entirely.

The suits were a result of the Truman Committee Report No. 10, issued last July, alleging a conspiracy by the co-defendants to defraud the government by obtaining the payment and allowance of false and fraudulent claims.

Chapline left Wright Nov. 12, 1940 to join the Brewster Aeronautical Corp., and remained there until July 12, 1943, when he re-entered the Navy as a Commander in the U. S. Naval Reserve. He is now stationed as Commanding Officer, Acorn No. 18, Port Hueneme, Calif., anticipating overseas orders in the near future.

Chapline's motion for judgment, dismissing the action pending before the U. S. District Court for the Southern District of New York, was entered Oct. 15 by his counsel, Cyril H. Condon, Wherry, Condon & Forsyth, New York City, before Judge Simon H. Rifkind. Both counsel for the government, and for the remaining defendants, expressly consented to the granting of the relief requested. An order was signed within a few days thereafter.

On Nov. 8 Mr. Condon will make a similar motion on Chapline's behalf in Cincinnati in the U. S. District Court for the Southern District of Ohio, and subsequently in the U. S. District Court for the District of New Jersey. Not only has government counsel aided in clearing Chapline of any connection with the alleged acts, but has tacitly approved the publicizing of his clearance. While at Wright Aeronautical Chapline was one of the most popular and able executives in the industry.

J. T. Hartson Elected Head of Martin's Nebraska Firm

Joseph T. Hartson has been elected president of the Glenn L. Martin-Nebraska Co., Omaha, Mr. Martin announced last fortnight. The announcement was made simultaneous with the report that the Army has selected the Nebraska plant to build a new type warplane "much larger than the B26 Marauder."

Hartson joined Martin in 1935, after being with Boeing Airplane Co. for many years. As sales manager of the Wright Aeronautical Corp., he sold Charles A. Lingbergh the engine which took him to Paris in 1927. He was technical expert for the Federal Aviation Commission in 1933-34.

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These savings in time, man-hours, operations and materials can not be overlooked in the urgency of war production — when every second counts — when every minute saved in production means more needed equipment on the fighting fronts. These production tests made over a period of 90 days with 5 different manufacturers* of CG-4A Gliders confirm the vital job Guardsman Aviation Finishes can do to speed up production.

*Name of manufacturer
on request.

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finishes to Wright Field
since 1935.

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GRAND RAPIDS · MICHIGAN

**Speed the Attack
with
Speeded-up Production
use
Guardsman
Aviation Finishes**

Brewster Troubles Uprooted, Kaiser and DeLorenzo Say

Henry J. Kaiser, newly elected president of Brewster Aeronautical Corp., and Thomas De Lorenzo, widely-reputed labor "czar" at the corporation, where attempt after attempt to remedy conditions which have blocked the production of Navy planes are said to have failed, jumped the gun on a public Congressional investigation.

The two held a joint press conference the day before a House Naval Affairs subcommittee was slated to start hearings on the whys and wherefores of reports of ruthless labor domination of the corporation, of management too weak to hold its own, and of scores of other troubles. Kaiser and De Lorenzo told the press that all basic evils at the corporation had been uprooted, that management was determined to be efficient and labor cooperative, that Brewster was now on its way to top all producers of aircraft.

Members of House Naval Affairs remained skeptical. Labor and management had both made the same pledge before. They went ahead with public hearings at which witnesses successively gave their version of conditions at the Johnsville, Pa., plant. It was agreed by all testifying that they were bad.

Congressmen laid blame for Brewster's record jointly on management, labor, and the Navy Department. Navy witnesses in-

sisted the Navy was blameless, said the Navy had made the best of a bad situation, and laid blame jointly on management and labor.

Production capacity of the Johnsville plant, according to Assistant Secretary of Navy for Air Artemus Gates, would be 250 to 300 planes per month. The plant's monthly plane production record since the accession of the Kaiser regime, with Frederick Reibel as president, in March is: March, 9; June, 80; July, 92; September, 81. The plant retained between 20,000 and 21,000 employees during this period. Kaiser has pledged himself to up production to 150 planes a month by the end of the year.

Dissatisfied with the margin between potential and actual production at Brewster and wastage of manpower, Congressmen indicated considerable concern when it was reported that according to a confidential WPB rating index of aircraft producers, Brewster rates eighteenth among twenty-seven firms.

Under Secretary of Navy James Forrestal explained that firms whose production record is lower than that of Brewster are either new in the aircraft field or are firms producing experimental plane types.

Here is what key witnesses reported on Brewster:

JAMES FORRESTAL warned that installation of Kaiser as active head of the corporation is the Navy's "last attempt to get production at Brewster of planes which we urgently need." If production at the plant "does not approximate" the present estimate of Kaiser of 150 planes per month by the end of the year "within six months", the project will be abandoned,

Wanted—One Agency

Taylorcraft Aviation Corp., Alliance, O., reports a mounting volume of applications for distributor and dealer franchises, indicating keen interest in postwar private flying.

Among recent applications is one received from Flight Lieut. A. W. Matthews of the RAF, asking for a catalog, data on engine performance and radio equipment, and ending with the question, "What are the chances of setting up an agency in Moncton, New Brunswick?"

Lieut. Matthews is a prisoner of war in a German prison camp.

"but reluctantly," he said. He stressed the Navy's need for production of Corsairs at Brewster.

ARTEMUS GATES seconded Forrestal's position that the Navy "will call it a day" at Brewster if Kaiser fails to materialize his production promises.

REAR ADMIRAL S. M. KRAUS, general inspector of naval aircraft of the Eastern District, contended that management was equally to blame with labor. He said that management's methods which prevented anything approaching an orderly flow of materials provoked labor troubles. He claimed that the company's lack of organization resulted in planes being jumbled together, instead of assembled, kept employees waiting until needed materials arrived, materials which often, he said, were subsequently located right in the plant.

HENRY KAISER, production genius who is staking his reputation in tackling problems at Brewster where four managements have already failed, said that he was confident that labor would do its part as soon as management did its part in efficiently organizing. "I am personally confident that the workers of Brewster are eager to produce, and I accepted as the function of management to provide them with the plans and means for effective production under conditions that create mutual confidence and happiness and pride of achievement", he stated.

DPC Authorizations

FORD MOTOR CO., Detroit, for additional plant facilities in Michigan at a cost of about \$1,330,000; over-all commitment, \$7,100,000.

LOCKHEED AIRCRAFT CORP., Burbank, Calif., for additional facilities in Calif. at a cost of about \$5,000,000; over-all commitment of about \$6,000,000.

CHRYSLER CORP., Detroit, for additional plant facilities at a cost of about \$410,000; over-all commitment of about \$2,500,000.

AIR PRODUCTS, Inc., Detroit, for additional facilities in Tennessee at a cost of approximately \$550,000.

BOEING AIRCRAFT Co., Seattle, for additional facilities at a plant in Washington at a cost of approximately \$650,000; overall commitment \$1,150,000.

WRIGHT AERONAUTICAL CORP., Paterson, N. J., for additional equipment for plants in New Jersey approximately \$5,500,000; overall commitment approximately \$45,000,000.

DOUGLAS AIRCRAFT CO. INC., Santa Monica, for additional plant facilities in California at a cost of approximately \$250,000; overall commitment \$980,000.

BOHR AIRCRAFT CORP., Chula Vista, Calif., for additional facilities at California plant at cost of about \$320,000, resulting in overall commitment of about \$3,240,000.

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Manufacturing Personnel



Clay Brown



Jordan



Dickinson



Gage



Heineck



Buckley

M. H. Vaughan has been named factory superintendent of Consolidated Vultee's Miami Division.

Bendix Aviation, Ltd., announces appointment of **Paul Heineck** as midwest hydraulics representative.

Frank P. Tighe has been named director of public relations and advertising for the Houdry Process Corp., Wilmington, Del., developer of catalytic processes.

Richard P. Brown, chairman of the board of the Brown Instrument Co., and vice president of Minneapolis-Honeywell Regulator Co., has been named deputy director of the War Production Board, Third Region.

Aro Equipment Corp., Industrial Pneumatic Tool Division, announces that **Thomas O'Malley** has been named division manager in the New England territory and **James Littleton** has been named division manager in the Southern Ohio territory.

William L. Wilson has been appointed assistant to the president of Kellett Aircraft Corp. and has resigned his former position as director of industrial relations with the Farmingdale Division, Republic Aviation Corp.

Aircraft Accessories Corp., Burbank, Cal., announces that **Daniel W. Gage**, formerly with Consolidated-Vultee Air-

craft, Vultee Division, has been named industrial relations counsel. Gage was at one time a legal counsel for Adel Precision Products.

Whitley B. Moore has been appointed director of sales for all divisions of Timken Roller Bearing Co. **C. H. McCollam** succeeds Moore as general manager of sales of Timken Steel and Tube Division.

Simmonds Aerocessories, Inc., announces that **Arthur J. Dickinson**, formerly engineer in charge of hydraulics design and installation on the Martin "Mars", has been appointed hydraulics design supervisor of the company.

William Martin Grampp, formerly director of purchases for Brewster Aeronautical Corp., has joined Black Bear Company, Inc., Aviation Division, as general manager.

Paul R. Jordan, general manager of Harvill Corp., has been elected vice president of the concern.

Clay Brown has been named assistant to the president of United States Plywood Corp.

Personnel for the new Owens-Corning Fiberglas Corp. plant at Huntingdon, Pa., follows: **Marshall Burch**, manager; **John Saalfeld**, production superintendent; **Walter Aikman**, plant engineer; **Alva B. Walton**, personnel director; **John R. Zirkle**, industrial engineer; **Kenneth L.**

Sullivan, service manager; **Daniel M. Hunter**, purchasing agent; **Robert M. Schenk**, product control supervisor; and **C. R. Moore**, accounting and budget supervisor.

Aro Equipment Corp. reports that **William A. Shulz** has been appointed to the Chicago sales division. He was formerly a salesman for Crerar-Adams & Co., Chicago mill supply distributors.

B. F. Goodrich Co. announces appointment of **William S. Richardson** as head of the company's newly-created chemicals division and **E. F. Tomlinson** as general manager of the company's industrial products sales division.

John J. Buckley has been appointed production manager of Hub Industries, Inc. He was on the staff of Anderson Nichols Association, consulting engineers at Curtiss-Wright's Columbus, O., plant.

Harry F. Kniesche, formerly assistant production manager of the Glenn L. Martin Co., Baltimore, Md., has been appointed production manager at the Des Moines, Ia., plant of Solar Aircraft Co.

Seymour Rosing, former RCAF instructor has joined the Bell Aircraft Corp. production test pilot staff.

Ralph J. Cordiner, well known to the aircraft industry as vice chairman of WPB, is now assistant to the president of General Electric Co.

C. George Evans, personnel director of Air Associates, Inc., has been appointed a panel member of the Regional War Labor Board in the region comprising New York and Northern New Jersey.

American Aviation Corp. reports that **C. E. Haynes** has been named vice president in charge of procurement. He has been director of procurement since last May.

C. W. Perelle, vice president-manufacturing of Consolidated-Vultee Aircraft Corp., has been elected a director of the corporation to fill a vacancy created several months ago by the resignation of **G. M. Williams**, one-time assistant to **Tom M. Girdler**, chairman of the board.

William L. Wilson has been appointed assistant to the president of Kellett Aircraft Corp. He has resigned his former position as director of industrial relations with the Farmingdale Division, Republic Aviation Corp. **Morgan C. Monroe** succeeds Wilson at the Farmingdale Division, Republic announces.

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—MANUFACTURING—

Principals in Lockheed-Vega Realignment



Holter

Prudden

Bach

FACTORY SUPERVISION at Lockheed Aircraft Corp. was realigned last fortnight to provide maximum concentration on output of the P-38. Mort Bach, works manager of Vega Aircraft Corp., became works manager at Lockheed, with George H. Prudden, assistant works manager at Vega since 1941, succeeding Bach there. Assisting Bach is F. Penn Holter, formerly an engineer with Delco Remy Corp., division of General Motors, who is recognized for his proficiency in devising manufacturing methods. John H. Sreenan, Bach's predecessor as works manager, becomes general superintendent of outside plants. The new works manager joined Lockheed in 1934. He was plant superintendent there when he was called to Vega two years ago to help get that company's expanded schedules on the B-17 and Ventura rolling toward their present advanced status. Prudden joined Lockheed in 1932 after having been associated in metal aircraft production since 1920. He helped design the Ford tri-motor.

CONTINENTAL MOTORS CORP. reports net profit for the nine months ended July 31 of \$4,375,627, equal to \$1.46 a share on the 3,000,000 shares of capital stock, after all charges, including depreciation, Federal taxes, excess profits taxes, and after allowing for proper reserves and charge-offs.

RYAN AERONAUTICAL CO. announces that a cash dividend of 35 cents per share will be paid on November 26 to stockholders of record October 26. The dividend, together with the 10-cent dividend paid last December 26, brings the total dividends for the current fiscal year, ending October 31, to 45 cents, the same dividend payment as was made during the 1942 fiscal year.

Curtiss-Wright, Higgins Unite to Produce Large Volume of C-46 Planes

A joint production program by Curtiss-Wright Corp. and Higgins Aircraft, Inc., will turn out C-46 Commando cargo transport planes on a scale that is the largest "ever projected in war or peace," the companies announce. The project is to be carried out in cooperation with the Army Air Forces. Monthly production schedules will remain a military secret, but it is known that they call for building the planes in unprecedented numbers.

The Commando already is being built in Curtiss-Wright plants in Buffalo. With the initiation of the new program, C-W plants at St. Louis and Louisville, as well as a Higgins plant near New Orleans, also will begin production. As prime contractors the Curtiss-Wright and Higgins plants will build complete airplanes, but, in addition, the Higgins plant will supply outer wing panels for the Curtiss-Wright Buffalo plant, and the Louisville plant will make the same panels for the St. Louis plant.

In setting up the new production schedule, an executive committee has been established, with Col. Orval R. Cook of the production division, Materiel Command, Wright Field, as chairman.

FAIRCHILD AIRCRAFT, Ltd., reports a net profit of \$38,386 for the fiscal year ended June 30, after charges and taxes. Net is equal to 30 cents a share on 127,800 shares of capital stock. Net profit of \$98,541, or 77 cents a share, was reported last year.

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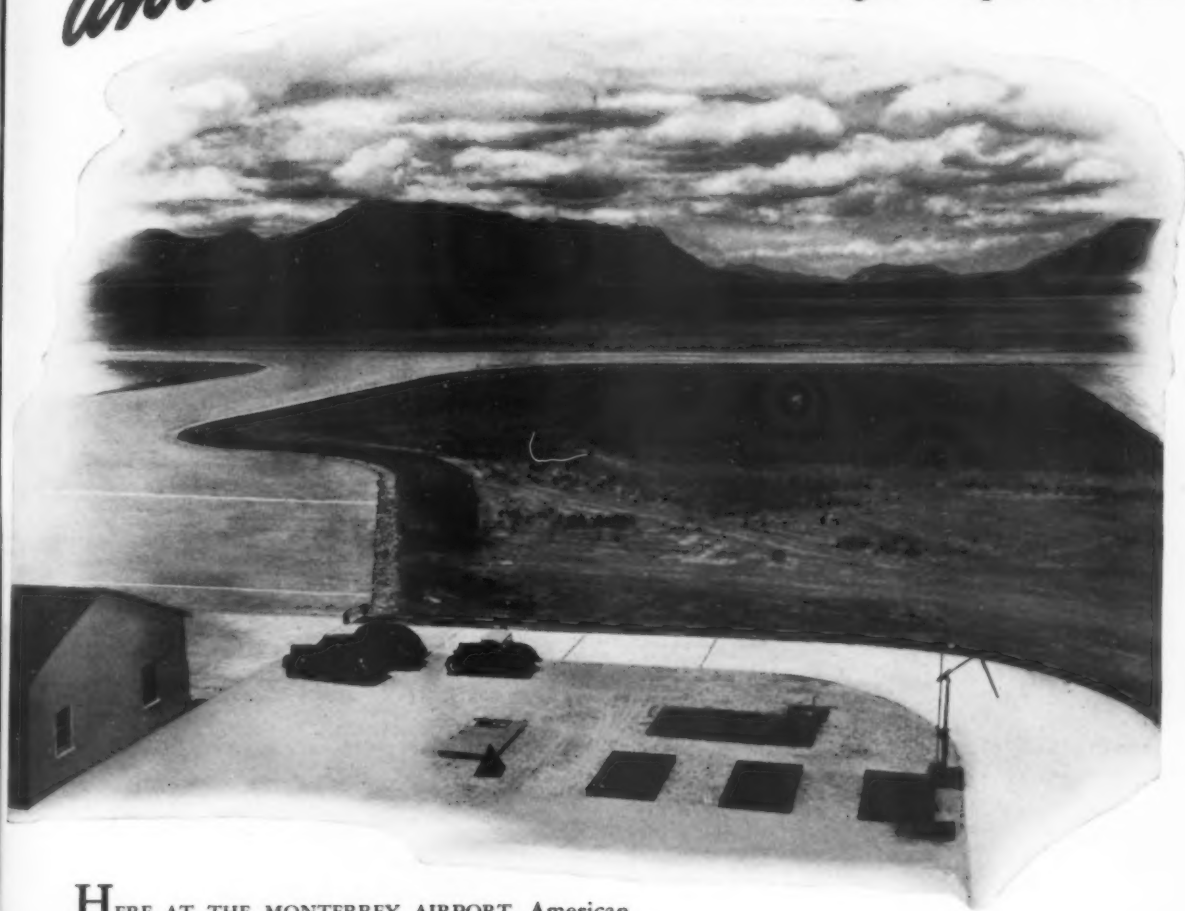
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Curtiss-Wright Corp. Adds Two New Vice Presidents



Harrison



Harrington

Curtiss-Wright Corp. has elected two new vice presidents in a move to expand its executive management. The new officers are Frank H. Harrison, manager of manufacturing for the International Harvester Co., and E. J. Harrington, coordinator of planning, production, and material problems for Lockheed Aircraft Corp.

Harrison, for the present, will make his headquarters at the C-W warplane plant at Columbus, O., and will be in complete charge of operations there; Harrington will be located in the New York office as a member of the executive manufacturing staff.

Pratt & Whitney Appoints Arthur Christie to Post Vacated by Lorenzo Snow

United Aircraft Corp. has appointed Arthur Christie, formerly in charge of United Aircraft Export Corp. in New York, as Washington representative for the Pratt & Whitney Division. Christie, who is well known throughout the industry is considered a highly able man for the Washington assignment.

He succeeds Lorenzo L. Snow, who recently was made manager of the airport division of United after serving as Washington representative since 1938. Snow assumed the post in the airport division made vacant when Bernard L. Whelan was named general manager of Sikorsky Aircraft at Bridgeport, Conn.

Snow, a World War flyer, operated an airport in California before joining Pratt & Whitney in 1934 as an installation engineer. Later he was assistant West Coast representative of P & W.



Snow

Whelan was named general manager of Sikorsky Aircraft at Bridgeport, Conn.

Three West Coast Firms Unite 'for Coordination'

Three old aviation concerns have been united to coordinate the parts they are playing in the war effort through a new organization setup of the Airplane Manufacturing and Supply Corp., the managing company which directs the group.

According to Earl Herring, president and general manager of the corporation, the concern will operate under the trade name AMSCO and will direct activities of Pacific Airmotive, which has been engaged in airplane and engine overhaul work since 1927; the manufacturing division of Airplane Manufacturing & Supply Corp.; and Airplane Parts & Supplies.

Other officers of AMSCO are Edward O. Locher, assistant general manager and secretary-treasurer; Ralph B. Lacoe, vice president; and K. R. Jamison, vice president in charge of sales.



Herring

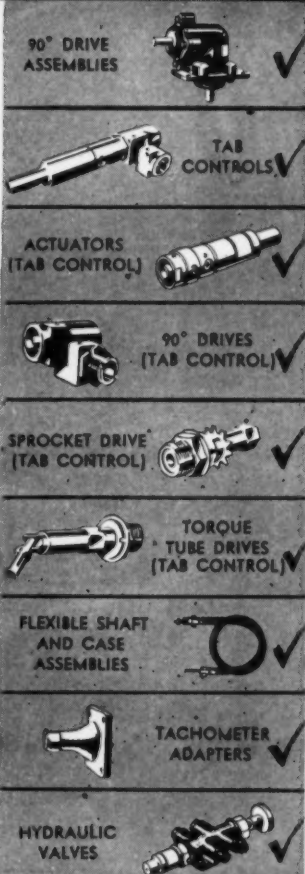
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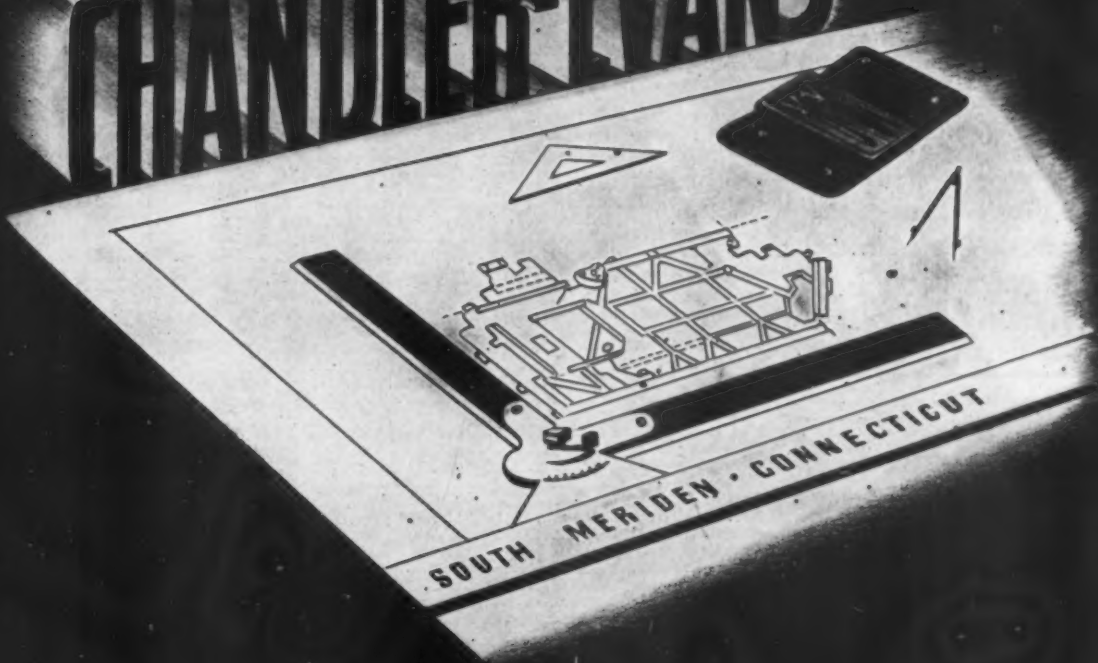
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- 6 Nashville, Tenn. ★ The Andrew Jackson
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Aviation Stock Averages

	Close of business Week of Oct. 1	Week of Oct. 8
DOW-JONES INDUSTRIALS	140.33	136.74
DOW-JONES RAILS	35.22	34.46
5 MAJOR AIRCRAFT MFG. COS.	29.20	28.46
4 MAJOR TRANSPORT COS.	37.22	35.37
7 LESSER AIR TRANSPORT COS.	12.96	12.61
4 LESSER AIRCRAFT MFG. COS.	9.56	9.56
20 AVIATION STOCKS	21.19	20.56

Aviation Securities Over the Counter

	Close of Business October 1		October 8	
	Bid	Asked	Bid	Asked
AIRLINES				
All American Aviation	3 1/4	4	3 1/2	4
American Airlines Preferred	118 1/2	116	118 1/2	116
American Export Airlines	31	32	31	32
Braniff	12 1/2	12 3/4	12	12 1/2
Chicago & Southern Com.	14	14 1/2	13 3/4	14
WTS				
Continental Airlines	8	8 1/2	7 1/2	8 1/2
Delta Air	25	26	25	26
Inland Airlines	3 1/2	4 1/4	3 1/2	4 1/4
Mid Continent	5 7/8	6	5 1/2	5 7/8
National	13 1/2	14	13	13 1/2
Northeast Airlines	7 1/4	7 3/4	6 3/4	7
Penn Central Airlines Pfd.	31 1/4	32 1/2	30	30 1/2
MANUFACTURERS				
Aeronca	3 3/8	3 5/8	3 3/8	3 5/8
Air Associates Common	1 1/2	1 3/4	1 1/2	1 3/4
Aircraft and Diesel	27 1/2	31 1/2	27 1/2	31 1/2
Aircraft Accessories	2	2 1/4	2 1/4	2 1/2
Airplane and Marine .....	.75	.85	.70	.80
Airplane Mfg. & Supply	5/8	7/8	5/8	7/8
Central Airports	5/8	7/8	5/8	7/8
Columbia Aircraft Prod.	3 1/8	3 1/2	3	3 1/2
Continental Aviation	1 1/2	1 3/4	1 1/2	1 3/4
Delaware Aircraft Pfd.	1 1/2	1 3/4	1 1/2	1 3/4
General Aviation Equip.	1 1/2	1 3/4	1 1/2	1 3/4
Globe Aircraft .....	.30	.40	1/4	1/2
Harlow Aircraft	6 7/8	7 1/4	6 1/2	6 7/8
Harvill Aircraft Common	4 1/4	4 1/2	3 7/8	4 1/4
Harvill Aircraft Pfd.	2 1/4	2 1/2	2 1/4	2 1/2
Interstate Aircraft & Eng. ....	.95	1.05	.95	1.05
Jacobs Aircraft	11 1/8	11 1/4	10 5/8	10 3/4
Kellett Aircraft	5/8	3/4	1/2	3/4
Kenner Motors	6 3/8	6 5/8	6	6 1/4
Liberty Aircraft	5 3/8	5 3/4	5 3/8	5 3/4
Luscombe	13 1/4	14 1/4	13 1/2	14 1/4
Northrop Aircraft	5 1/4	5 1/2	5 1/2	5 3/4
Piper Aircraft Common	3 3/4	4 1/2	4 1/8	4 1/2
Piper Aircraft Preferred	1 1/2	1 3/4	1 1/2	1 3/4
Pittsburgh Aviation Pfd.	4 1/4	4 3/4	4 1/4	4 3/4
Rohr Aircraft .....	.60	.70	.50	.60
Standard Aircraft	15 1/2	16 1/2	15 1/2	16 1/2
Taylorcraft Common	15 1/2	16 1/2	15 1/2	16 1/2
Taylorcraft Preferred	15 1/2	16 1/2	15 1/2	16 1/2
Timm	15 1/2	16 1/2	15 1/2	16 1/2
United Aircraft Prod. Pfd.	15 1/2	16 1/2	15 1/2	16 1/2

Vaughan Cites Production Record of Curtiss-Wright

During the first nine months of 1943, Curtiss-Wright Corp. divisions made the following production records in comparison with the first nine months of 1939:

Wright Aeronautical Corp. produced 22 times as much aircraft engine horsepower.

Curtiss-Wright Airplane Division shipped 26 times as many pounds of airframes.

Curtiss-Wright Propeller Division shipped 59 times the value of propellers.

G. W. Vaughan, president of the corporation, made these comparisons at the annual meeting of Curtiss-Wright stockholders Oct. 20 in Wilmington, Del.

"Curtiss-Wright is naturally proud of

its production achievements, but it is especially proud of the performance of its products in combat against enemy aircraft and ground objectives in every theater of the war—because the test of battle is the only accurate method of judging the merit of military aircraft," he said.

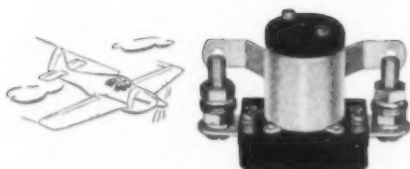
Vaughan revealed that floor area of C-W plants has been increased from 2,000,000 square feet in 1939 to a current total of more than 23,000,000 square feet. The number of employees has been increased from 8,000 at the start of World War II to a current total of approximately 180,000, he added, with labor turnover amounting to 47,000 a year, on the basis of the past year's figures.

"In aircraft production lies a key to the date when Germany and Japan will collapse," he said.

Relays by GUARDIAN



FOR EVERY CONTROL NEED



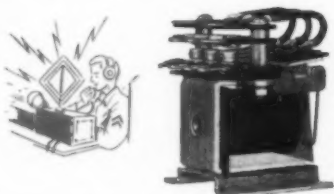
SC-25 LIGHTWEIGHT CONTACTOR

A lighter, more efficient contactor for AAF type B-4 continuous duty applications. Double wound coil draws 2 amperes closing contacts firmly. Then an auxiliary switch cuts in a higher resistance reducing current to .18 amperes. Advantages are lighter weight, firm closing of contacts, smaller current drain. Weight: 21 oz. Write for bulletin SC-25.



SERIES 195 MIDGET RELAY

One of the smallest of all relays. Built for aircraft and radio applications where space and weight are at a premium. Contact rating: 2 amps. at 24 volts D.C. Switch capacity up to double pole, double throw.



SERIES 345 RADIO RELAY

A general purpose radio relay designed for aircraft use. Contact combinations up to three pole, double throw. Coil resistances range from .01 ohm to 15,000 ohms. Standard voltage: 16-32 volts D.C. Available with delayed release or delayed attract. Weight: 6½ oz. Also built for A. C. operation (Series 340).



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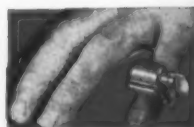


Specially good for **SELF-SEALING HOSE**

This illustration shows one size of AERO-SEAL Hose Clamp applied to two different sizes of self-sealing hose. The clamp is the same size in each case and the hoses are $\frac{3}{8}$ " and 1" I.D. The extra-long take-up of AERO-SEAL Hose Clamps makes them particularly well adapted for dependable service on the soft, thick walls of self-sealing hose. On periodic inspection, a quick twist of the thumb-screw is all that is needed to insure maintenance of a leak-proof joint.

THE *Full* LINE OF *Approved* **HOSE CLAMPS**

AERO-SEAL Hose Clamps *stand alone* in meeting the new Army and Navy requirements for extra large diametral take-up. Other outstanding features include: ● High strength. ● Uniform peripheral tightening to stand high pressures without leakage. ● Self-locking, no lock wire necessary. ● No loose parts. ● Will not distort or collapse thin wall tubing. ● Can be installed or replaced without removing hose. ● Compact design of take-up housing, with no excessive protrusions. ★ *Exhaustive tests have proved the unquestioned superiority of AERO-SEAL Hose Clamps for all types of aircraft service.*



NOW! SMALL SIZES

Newest additions to the AERO-SEAL line include clamps for $\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", and $\frac{3}{8}$ " I.D. hose. Tighten an AERO-SEAL clamp on your finger or forearm and see how uniform the pressure is!

WIDE CLAMPING RANGE

AERO-SEAL Hose Clamps have *more than double* the diametral take-up required to cover variations in hose diameter, wall thickness, and the flow of rubber under repeated tightening of clamps in service. This extra take-up gives a wide clamping range... each size of clamp will fit several smaller hose sizes, in addition to the nominal size for which each is made. AERO-SEAL construction consists of a band perforated with holes corresponding to worm gear teeth, this band being drawn through a housing by turning a thumb-screw worm. Enough extra perforations are provided so that the clamp can be taken up a *full inch on diameter*. This will help to solve those service problems that arise when exactly the right size clamp is not in stock.

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Leading Aviation Stocks

New York Stock Exchange

	Week Ending Oct. 16				Week Ending Oct. 23			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
American Airlines	2,800	63 1/4	61 1/2	- 1/4	2,900	63 1/2	61 1/4	+ 3/4
Aviation Corp.	7,600	4	3 3/4	.....	14,100	4	3 3/4	- 1/4
Bell Aircraft	1,000	13 1/4	12 3/4	- 1/4	2,600	13 1/2	12 1/2	+ 3/4
Bendix Aviation	3,800	35 1/4	34 1/2	+ 1/4	4,700	35 1/2	34 1/2	+ 1/4
Boeing Airplane	3,600	15 1/4	14 3/4	.....	8,600	16 1/4	14 3/4	+ 1 1/4
Consolidated Vultee	4,000	13 1/4	13	- 1/4	5,100	14	13 1/4	+ 1/2
Consolidated Vultee pfd.	1,400	22	21 1/2	- 1/2	900	21 3/4	21 1/4	- 3/4
Curtiss-Wright	9,500	7 1/4	7	- 1/4	14,800	7 3/4	7 1/4	+ 1/4
Curtiss-Wright A	3,300	19	18 1/4	.....	3,700	19 1/4	18 1/4	- 1/4
Douglas Aircraft	1,700	61 3/4	60 1/4	+ 1 1/2	4,500	63 1/2	61 1/4	.....
Eastern Air Lines	3,100	35 3/4	34 1/4	+ 1/4	1,700	35 1/4	34 1/2	- 1/4
Ex-Cello-O	700	24 1/4	23 3/4	.....	700	24	23 1/2	- 1/2
Grumman Aircraft Eng.	1,100	12 3/4	12 1/4	- 1/4	800	12 3/4	12 1/4	- 1/4
Hayes Industries	1,000	7 3/4	7 1/4	- 1/4	400	7 1/2	7 1/4	+ 1/4
Lockheed Aircraft	3,600	17 1/2	16 3/4	- 3/4	10,800	17 1/4	16 3/4	- 3/4
National Aviation	1,100	11 1/2	11 1/4	+ 1/4	900	11 3/4	11 1/2	+ 1/4
North American Aviation	2,800	10 1/4	10	- 1/4	7,300	10 3/4	10	+ 1/4
Northwest Airlines	1,700	18 1/4	17 1/4	- 1/4	6,100	18 1/4	17 1/4	+ 1/4
Pan American Airways	16,300	32 1/2	30 1/2	+ 1/2	11,300	32 3/4	31 3/4	- 1/2
Penn Central Airlines	2,800	15 1/4	14	+ 1/4	1,900	15 1/2	15	- 1/4
Sperry Corp.	4,700	26	25	+ 1/2	8,100	26 3/4	25 3/4	+ 3/4
Thompson Products	1,000	30 3/4	30 3/4	+ 3/4	4,600	31 1/4	30 1/2	+ 1/4
Trans. & Western Air	2,900	21 1/2	19 3/4	+ 1/2	2,400	22	21 3/4	+ 1/4
United Air Lines	8,600	26 3/4	25	.....	9,400	26 3/4	25 1/4	- 1/2
United Aircraft	10,600	30 3/4	29 1/4	- 1/4	9,100	30 3/4	30 1/4	+ 3/4
United Aircraft pfd.	600	105 3/4	104 3/4	- 1 1/4	1,300	105	103 1/4	- 1 1/2
Wright Aero	.....	.....	.....	.....	29,000	91 1/2	90	+ 3 1/4

New York Curb Exchange

	Week Ending Oct. 16				Week Ending Oct. 23			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
Aero Supply B	100	4	4	.....	1,300	4	3 3/4	- 1/4
Air Associates	700	7 1/2	7 3/4	+ 1/4	200	7 3/4	7 1/4	+ 3/4
Aircraft Accessories	1,100	3	2 3/4	- 1/4	7,300	3	2 3/4	+ 1/4
Aro Equipment	500	9	8 3/4	.....	500	8 3/4	8 1/4	- 1/4
Bellanca Aircraft	400	2 3/4	2 3/4	- 1/4	100	2 1/2	2 1/2	- 1/4
Breeze Corp.	600	10 1/4	9 3/4	- 3/4	600	10 3/4	10 1/4	+ 3/4
Brewster Aero	9,900	5 1/4	4 1/4	- 3/4	3,800	4 3/4	4	.....
Cessna Aircraft	1,100	6 3/4	6 3/4	.....	700	6 3/4	6 3/4	.....
Colonial Airlines	700	8	7 3/4	- 1/4	900	8	7 3/4	+ 1/4
Fairchild Aviation	400	7 3/4	7 3/4	.....	500	7 3/4	7 3/4	.....
Fairchild Eng. & Airplane	1,100	17 1/4	13 1/4	.....	3,700	17 1/4	13 1/4	.....
Irvig Air Chute	600	8 1/4	8	- 1/4	200	8 1/2	8 1/4	+ 1/4
Republic Aviation	2,100	3 1/4	3 1/4	.....	3,600	3 1/4	3 1/4	.....
Ryan Aero	1,800	3 3/4	3 1/2	+ 1/4	1,100	4	3 3/4	+ 3/4
Solar Aircraft	400	3 1/4	3	- 1/4	1,100	3 1/4	3 1/4	+ 1/4
United Aircraft pfd.	800	9 1/4	9	.....	1,000	9 3/4	8 3/4	- 1/4
Western Air Lines	700	8 1/2	8	- 3/4	900	8 3/4	8 1/4	- 3/4

Ryan Asks Stockholders Consent to Enlarge Board

Ryan Aeronautical Co. is soliciting consent of its stockholders to the adoption of amendments to the articles of incorporation and by-laws of the corporation providing that two new appointments to the board of directors be made.

Upon ratification by the stockholders of the amendments, the present board proposes to appoint Frank N. Phillips and C. Arnholt Smith as directors. Phillips is president of the Washburn Wire Co., Phillipsdale, R. I., and Smith is vice president and chairman of the board of the United States National Bank of San Diego, Cal. The Ryan concern has maintained banking relations with the United States National Bank since the inception of the company, an announcement states.

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"DOUGLAS A-20 HAVOC"



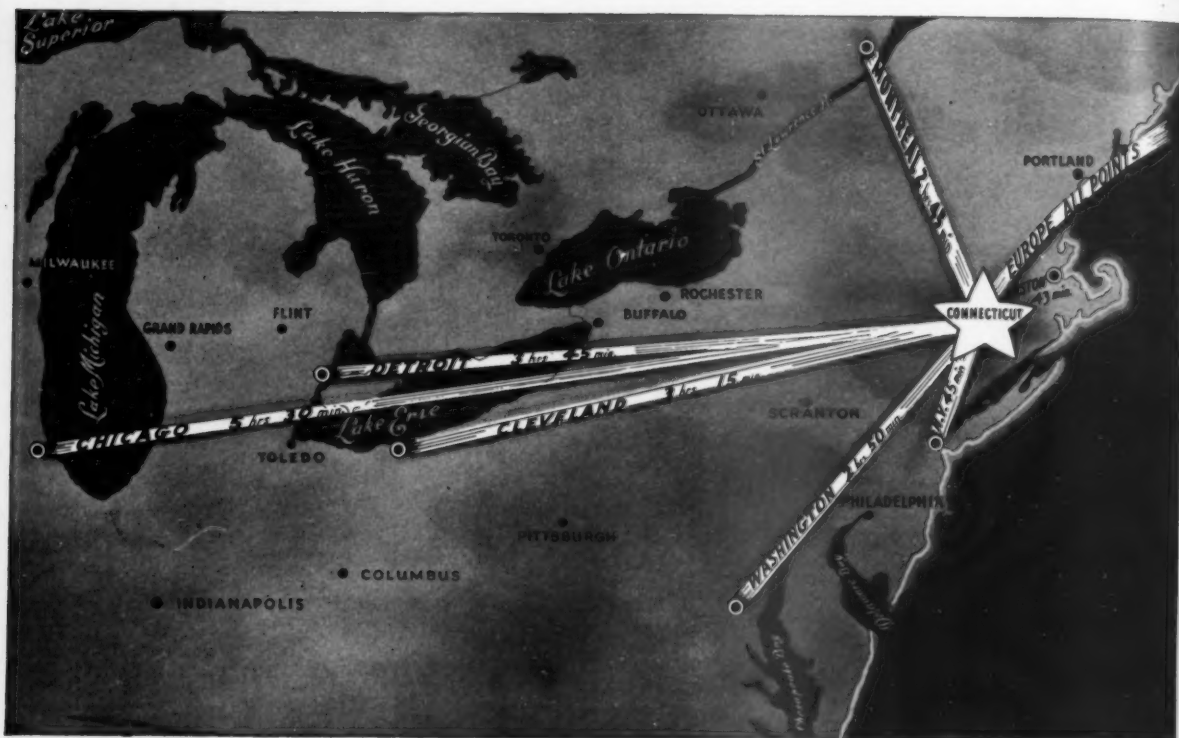
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WITTEK Aviation HOSE CLAMPS

TIMM AIRCRAFT CORP. announces a step-up in the August production of CG-4A Army transport gliders of 27% over the preceding month's production.

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- More than 2,000 diversified industries.
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Right on the Nose of the Fairchild PT-19

PROPELLER TIPS

When swinging a propeller, give it a rotary motion—do not pull toward yourself.

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Never "rev up" when the plane is standing on loose gravel, cinders or mud. Particles either picked up by the propeller or thrown against it by the wheels may cause serious damage.

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